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_____ DARC/Questel
_____ Other CGN

Jiang, D.
09/756690

FILE 'REGISTRY' ENTERED AT 10:31:04 ON 14 FEB 2003
L1 31 SEA ABB=ON PLU=ON HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPP PS/SQSP

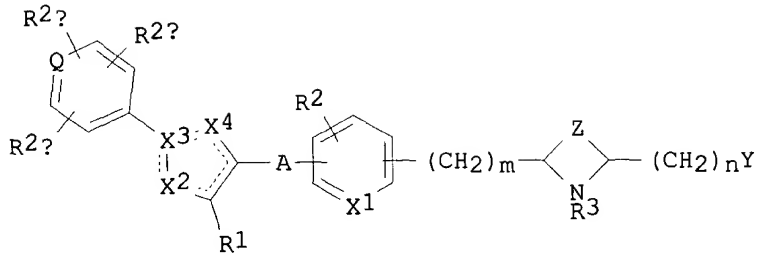
FILE 'HCAPLUS' ENTERED AT 10:31:51 ON 14 FEB 2003
L2 40 SEA ABB=ON PLU=ON L1

L2 ANSWER 1 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:927184 HCAPLUS
DOCUMENT NUMBER: 138:14048
TITLE: Preparation of oxazolylethoxyphenylprolines and related compounds as antidiabetic and antiobesity agents.
INVENTOR(S): Cheng, Peter T.; Jeon, Yoon; Wang, Wei
PATENT ASSIGNEE(S): Bristol-Myers Squibb Company, USA
SOURCE: PCT Int. Appl., 107 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

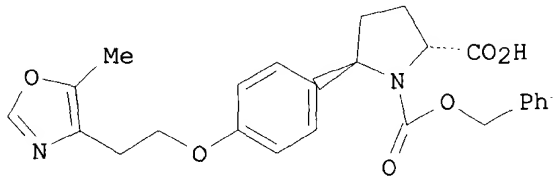
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002096357	A2	20021205	WO 2002-US16628	20020523

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-294505P P 20010530
OTHER SOURCE(S): MARPAT 138:14048
GI



I



II

AB Title compds. [I; m, n = 0-2; Q = C, N; A = (CH2)x, (CH2)x1, with an alkenyl or alkynyl bond in the chain, (CH2)x2O(CH2)x3; x = 1-5; x1 = 2-5; x2, x3 = 0-5; provided that .gtoreq.1 of x2 and x3 .noteq. 0; X1 = CH, N; X2 = C, N, O, S; X3 = C, N; X4 = C, N, O, S provided that .gtoreq.1 of X2, X3, X4 = N; in each of X1-X4, C may include CH; R1 = H, alkyl; R2 = H, alkyl, alkoxy, halo, (substituted) amino; R2a, R2b R2c = H, alkyl, alkoxy, halo, (substituted) amino; R3 = H, alkyl, arylalkyl, aryloxycarbonyl, alkyloxycarbonyl, alkynyloxycarbonyl, alkenyloxycarbonyl, arylcarbonyl, alkylcarbonyl, aryl, heteroaryl, cycloheteroalkyl, heteroarylcarbonyl, heteroarylheteroarylalkyl, alkylcarbonylamino, arylcarbonylamino, heteroarylcarbonylamino, alkoxycarbonylamino, aryloxycarbonylamino, heteroaryloxycarbonylamino, heteroarylheteroarylcarbonyl, alkylsulfonyl, alkenylsulfonyl, heteroaryloxycarbonyl, cycloheteroalkyloxycarbonyl, aryloxyheteroarylalkyl, heteroarylalkyloxyarylalkyl, arylarylalkyl, arylalkenylarylalkyl, arylaminoarylalkyl, etc.; Y = CO2R4, 1-tetrazolyl, P(O)(OR4a)R5, P(O)(OR4a)2; R4 = H, alkyl, prodrug ester; R4a = H, prodrug ester; R5 = alkyl, aryl; Z = (CH2)x4, (CH2)x5, (CH2)x6O(CH2)x7; x4 = 1-5; x5 = 2-5; x6, x7 = 0-4], were prepd. as antidiabetic and antiobesity agents (no data). Thus, title compd. (II) was prepd. in 6 steps.

IT **141758-74-9**, AC 2993
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(coadministration; prepn. of oxazolylethoxyphenylprolines and related compds. as antidiabetic and antiobesity agents)

L2 ANSWER 2 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:832649 HCAPLUS
DOCUMENT NUMBER: 137:346934
TITLE: Methods for treating conditions associated with insulin resistance by administering a GLP-1 compound
INVENTOR(S): Holst, Jens Juul; Olsen, Mette Zander; Hathaway, David R.
PATENT ASSIGNEE(S): Restoragen, Inc., USA
SOURCE: PCT Int. Appl., 60 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002085406	A1	20021031	WO 2002-US13088	20020424

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-285699P P 20010424

AB The present invention relates to methods and compns. for treating insulin-assocd. conditions comprising administering a glucagon-like peptide-1 (GLP-1) compd. to subjects suffering therefrom. The insulin resistance-assocd. condition of the invention is type-2 pre-diabetes, atherosclerotic cardiovascular disease, drug-induced insulin resistance, congestive heart failure, diminished exercise capacity of skeletal muscle, and left ventricular dysfunction with cardiac metabolic myopathy or diminished exercise capacity of skeletal muscle; with the proviso that said congestive heart failure is not assocd. with toxic hypervolemia.

IT **474444-81-0**
RL: PRP (Properties)
(unclaimed protein sequence; methods for treating conditions assocd. with insulin resistance by administering a GLP-1 compd.)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 3 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:813924 HCAPLUS
DOCUMENT NUMBER: 137:311200
TITLE: Preparation of 2,1-oxazoline and 1,2-pyrazoline-based inhibitors of dipeptidyl peptidase IV
INVENTOR(S): Sulsky, Richard B.; Robl, Jeffrey A.
PATENT ASSIGNEE(S): Bristol-Myers Squibb Company, USA
SOURCE: PCT Int. Appl., 61 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002083128	A1	20021024	WO 2002-US10936	20020405

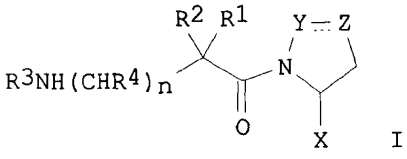
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,

GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2002183367 A1 20021205 US 2002-107279 20020326
PRIORITY APPLN. INFO.: US 2001-283438P P 20010412
OTHER SOURCE(S): MARPAT 137:311200

GI



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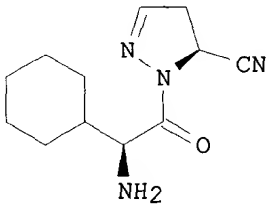


II

AB The invention describes dipeptidyl peptidase IV (DP 4) inhibiting compds. I [n is 0 or 1; X is H or CN; Y is N, NH or O; Z is CH2 when Y is O or NH, with Y-Z forming a single bond, and Z is CH when Y is N, with Y-Z forming a double bond; R1-R4 = H, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkylalkyl, bicycloalkyl, bicycloalkylalkyl, alkylthioalkyl, arylalkylthioalkyl, cycloalkenyl, aryl, aralkyl, heteroaryl, heteroarylalkyl, cycloheteroalkyl or cycloheteroalkylalkyl, which may be substituted; R1 may combine with R3 or R4 to form a ring (CR5R6)2-6 or (CR7R8)3-6, resp., where R5-R8 = H, OH, alkoxy, alkyl, aryl, etc.] and their pharmaceutically-acceptable salts or prodrug esters. A method is also provided for treating diabetes and related diseases, employing a DP 4 inhibitor I, optionally in combination with other therapeutic agents, including an antidiabetic, hypolipidemic, or anti-obesity agent. Thus, coupling of sultam-protected 1,2-pyrazoline-3-carboxamide with (S)-N-(tert-butoxycarbonyl)cyclohexylglycine (HOAt, Et3N, and EDAC in CH2Cl2), followed by sultam cleavage with methanolic ammonia, amide conversion to nitrile using imidazole, and deprotection, afforded II.TFA.

IT **141758-74-9**, AC2993
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antidiabetic agent; prepn. of oxazoline and pyrazoline-based inhibitors of dipeptidyl peptidase IV)

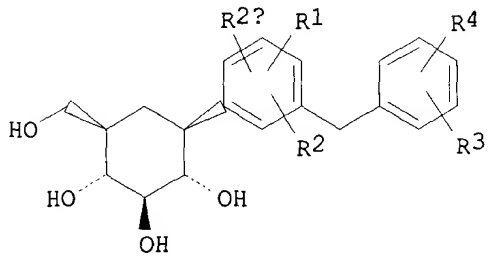
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 4 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:813874 HCAPLUS
DOCUMENT NUMBER: 137:311199
TITLE: Amino acid complexes of C-aryl glucosides for treatment of diabetes
INVENTOR(S): Gougoutas, Jack Z.
PATENT ASSIGNEE(S): Bristol-Myers Squibb Company, USA
SOURCE: PCT Int. Appl., 80 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002083066	A2	20021024	WO 2002-US11066	20020408

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-283097P P 20010411
OTHER SOURCE(S): MARPAT 137:311199
GI



I

AB Cryst. complexes are obtained from 1:1 or 2:1 mixts. of either the (D) or (L) enantiomer of natural amino acids and compds. of formula I [R1, R2, R2a = H, OH, OR5, alkyl, OCHF2, OCF3, SR5a, halogen; R3, R4 = H, OH, OR5b, alkyl, cycloalkyl, CF3, OCHF2, OCF3, halogen, CONR6R6a, CO2R5c, CO2H, COR6b, CH(OH)R6c, CH(OR5d)R6d, CN, NHCOR5e, NHSO2R5f, NHSO2-aryl, SR5g, SOR5h, SO2R5i, or a five, six or seven membered heterocycle which may contain 1 to 4 heteroatoms (N, O, S, SO, and/or SO2), or R3 and R4 together with the carbons to which they are attached form an annelated five, six or seven membered

carbocycle or heterocycle which may contain 1 to 4 heteroatoms in the ring; R5, R5a-R5i are independently alkyl; R6, R6a-R6d are independently H, alkyl, aryl, alkylaryl or cycloalkyl, or NR6R6a form an annelated five, six or seven membered heterocycle which may contain 1 to 4 heteroatoms in the ring]. A method is also provided for treating diabetes and related diseases employing an SGLT2 (sodium dependent glucose transporters found in the intestine and kidney) inhibiting amt. of the above complex alone or in combination with another antidiabetic agent or other therapeutic agent. Thus, I (R1 = 4-Me, R4 = 4-OCHF2, R2, R2a, R3 = H) was prepd. by a multistep procedure starting from o-toluic acid, anisole, 2,3,4,6-tetra-O-benzyl-.beta.-D-glucolactone, and CHF2Cl and treated with L-phenylalanine to form the cryst. 1:1 complex.

IT **141758-74-9**, AC2993
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of amino acid/C-aryl glucoside complexes for treatment of diabetes and related diseases)

L2 ANSWER 5 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:736927 HCAPLUS
DOCUMENT NUMBER: 137:247879
TITLE: Preparation of antidiabetic agents C-aryl glucoside as human SGLT2 inhibitors
INVENTOR(S): Ellsworth, Bruce; Washburn, William N.; Sher, Philip M.; Wu, Gang; Meng, Wei
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 17 pp., Cont.-in-part of U.S. 6,414,126.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002137903	A1	20020926	US 2002-151436	20020520
US 6515117	B2	20030204		
US 6414126	B1	20020702	US 2000-679027	20001004

PRIORITY APPLN. INFO.: US 1999-158773P P 19991012
US 2000-194615P P 20000405
US 2000-679027 A2 20001004

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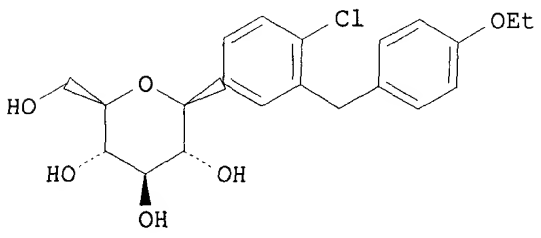


I

AB An SGLT2 inhibiting compd. is provided having the formula I method is also provided for treating diabetes and related diseases employing an SGLT2 inhibiting amt. of the above compd. alone or in combination with another antidiabetic agent or other therapeutic agent (no data). 1A pharmaceutical combination comprising an SGLT2 inhibitor compd. and an antidiabetic agent other than an SGLT2 inhibitor, for treating the complications of diabetes, an anti-obesity agent, an antihypertensive agent, an antiplatelet agent, an antiatherosclerotic agent, and/or a lipid-lowering agent (no data). A method for treating or delaying the progression or onset of diabetes, diabetic retinopathy, diabetic neuropathy, diabetic nephropathy, delayed wound healing, insulin resistance, hyperglycemia, hyperinsulinemia, elevated blood levels of fatty acids or glycerol, hyperlipidemia, obesity, hypertriglyceridemia, Syndrome X, diabetic complications, atherosclerosis or hypertension, or for increasing high d. lipoprotein levels, which comprises administering to a mammalian species in need of treatment a therapeutically effective amt. of a compd (no data).

IT **141758-74-9**, AC2993
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of antidiabetic agents C-aryl glucosides as human SGLT2 inhibitors)

L2 ANSWER 6 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:640378 HCAPLUS
DOCUMENT NUMBER: 137:346599
TITLE: Cellular specificity of proexendin-4 processing in mammalian cells in vitro and in vivo
AUTHOR(S): Adatia, F. A.; Baggio, L. L.; Xiao, Q.; Drucker, D. J.; Brubaker, P. L.
CORPORATE SOURCE: Department of Physiology, University of Toronto, Toronto, ON, M5S 1A8, Can.
SOURCE: Endocrinology (2002), 143(9), 3464-3471
CODEN: ENDOAO; ISSN: 0013-7227
PUBLISHER: Endocrine Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Glucagon-like peptide-1 (GLP-1) is a potent stimulator of glucose-dependent insulin secretion. Exendin-41-39 (Ex-4), isolated from Gila monster venom, is a highly specific GLP-1 receptor agonist that exhibits a prolonged duration of action in vivo. Although the processing mechanisms underlying liberation of GLP-1 from its prohormone have been elucidated, those for Ex-4 remain unknown. To examine the requirements for proEx-4 processing in mammalian cells, BHK fibroblasts, InR1-G9 islet A cells, and AtT-20 corticotrophs, which express different prohormone convertases (furin, prohormone convertase 2, and prohormone convertase 1, resp.) were transfected with full-length lizard proEx-4, and the processing of proexendin was examd. by HPLC and RIA. All of the transfected cell lines exhibited Ex-4-like immunoreactivity in the media, and Ex-4-like immunoreactivity was detected in exts. of InR1-G9 and AtT-20 cells. However, only media and exts. from AtT-20 cells (not InR1-G9 and BHK cells) contained a single peak by HPLC corresponding to synthetic Ex-4. To establish whether proEx-4 can be processed to Ex-4 in nonimmortalized mammalian cells in vivo, the mol. forms of exendin-4 were examd. in male and female mice expressing a metallothionein-proEx-4 transgene. ProEx4 mRNA transcripts were

detected by RT-PCR in a broad range of both endocrine and nonendocrine tissues. Ex-4-like immunoreactivity was detected in pituitary, fat, adrenals, and testes; however HPLC analyses demonstrated that processed Ex-4 was found only in adrenals and testes. These results indicate that lizard proEx-4 is processed to mature bioactive Ex-4 in both rodent endocrine and non-endocrine mammalian cell types in vitro and in murine tissues in vivo. These findings may be useful for engineering cells that express a lizard proEx-4 transgene for the treatment of type 2 diabetes.

IT **188265-76-1**, Exendin 4, pro- (Heloderma suspectum)
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(proexendin-4 processing to mature bioactive exendin-4 in rodent endocrine and non-endocrine mammalian cell types in vitro and in murine tissues in vivo)

REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 7 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:540258 HCAPLUS
DOCUMENT NUMBER: 137:109267
TITLE: Preparation of benzoxepinopyridines as HMG-CoA reductase inhibitors
INVENTOR(S): Robl, Jeffrey A.; Chen, Bang-chi; Sun, Chong-qing
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 42 pp., Cont.-in-part of U.S. Ser. No. 875,155.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002094977	A1	20020718	US 2001-7407	20011204
US 2002013334	A1	20020131	US 2001-875155	20010606

PRIORITY APPLN. INFO.: US 2000-211595P P 20000615
US 2001-875155 A2 20010606
OTHER SOURCE(S): MARPAT 137:109267
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Title compds. I [X = O, S, SO, SO2, NR7; Z = HOCHCH2CH(OH)CH2CO2R3, 4-hydroxy-2-oxopyran-6-yl, etc.; n = 0, 1; R1, R2 = alkyl, arylalkyl, cycloalkyl, alkenyl, cycloalkenyl, aryl, heteroaryl, cycloheteroalkyl; R3 = H, alkyl, metal ion; R4 = H, halo, CF3, etc.; R7 = H, alkyl, aryl, alkanoyl, aroyl, alkoxycarbonyl, etc.; R9, R10 = H, alkyl], were prepd. as HMG CoA reductase inhibitors active in inhibiting cholesterol biosynthesis, modulating blood serum lipids such as lowering LDL cholesterol and/or increasing HDl cholesterol, and treating hyperlipidemia, hypercholesterolemia, hypertriglyceridemia and atherosclerosis (no data). E.g., a

multistep synthesis of II is reported.

IT **141758-74-9**, AC2993
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(coadministered agents; prepn. of benzoxepinopyridines as HMG-CoA reductase inhibitors for the treatment of hyperlipidemia, hypercholesterolemia, hypertriglyceridemia, atherosclerosis, and other disorders)

L2 ANSWER 8 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:449715 HCAPLUS
DOCUMENT NUMBER: 137:28591
TITLE: Preparation of GLP-1 fusion proteins for use in treating diabetes mellitus and other conditions
INVENTOR(S): Glaesner, Wolfgang; Micanovic, Radmilla; Tschang, Sheng-Hung Rainbow
PATENT ASSIGNEE(S): Eli Lilly and Company, USA
SOURCE: PCT Int. Appl., 200 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002046227	A2	20020613	WO 2001-US43165	20011129
W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ, DE, DK, DK, DM, DZ, EC, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002026897	A5	20020618	AU 2002-26897	20011129

PRIORITY APPLN. INFO.: US 2000-251954P P 20001207
WO 2001-US43165 W 20011129
OTHER SOURCE(S): MARPAT 137:28591

AB The present invention relates to glucagon-like peptide-1 compds. fused to proteins that have the effect of extending the in vivo half-life of the peptides. The heterologous fusion proteins of the invention comprise a GLP-1 compd. fused to human albumin, a human albumin analog or fragment, the Fc portion of an Ig, or an analog or fragment of the Fc portion of an Ig. These fusion proteins can be used to treat non-insulin dependent diabetes mellitus as well as a variety of other conditions. Pharmaceutical formulations contg. the fusion proteins and polynucleotides encoding the proteins are also claimed.

IT **437124-38-4P 437124-39-5P 437124-51-1P 437124-53-3P**
RL: BPN (Biosynthetic preparation); PAC (Pharmacological activity); PKT (Pharmacokinetics); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

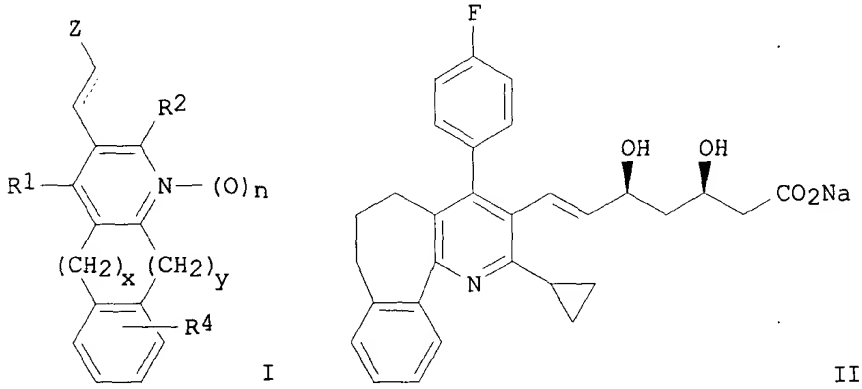
(amino acid sequence; prepn. of GLP-1 fusion proteins for use in treating diabetes mellitus and other conditions)

IT **435950-95-1DP,** fusion proteins contg.
RL: BPN (Biosynthetic preparation); PAC (Pharmacological activity); PKT (Pharmacokinetics); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of GLP-1 fusion proteins for use in treating diabetes mellitus and other conditions)

L2 ANSWER 9 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:392237 HCAPLUS
DOCUMENT NUMBER: 136:401651
TITLE: Preparation of fused pyridine derivatives as HMG-CoA reductase inhibitors
INVENTOR(S): Robl, Jeffrey A.; Chen, Bang-Chi; Sun, Chong-Qing
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 46 pp., Cont.-in-part of U.S. Ser. No. 875,218.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002061901	A1	20020523	US 2001-8154	20011204
US 2002028826	A1	20020307	US 2001-875218	20010606
PRIORITY APPLN. INFO.:			US 2000-211594P P	20000615
			US 2001-875218 A2	20010606

OTHER SOURCE(S): MARPAT 136:401651
GI



I II

AB The title compds. I and their pharmaceutically acceptable salts, esters, prodrug esters, and stereoisomers are claimed [wherein: Z = CH(OH)CH2CR7(OH)CH2CO2R3 or corresponding pyranone lactone derivs.; n = 0, 1; x = 0, 1, 2, 3, or 4; y = 0, 1, 2, 3 or 4, provided that at least one of x and y is other than 0; and optionally one or more

carbons of (CH2)x and/or (CH2)y together with addnl. carbons form a 3 to 7 membered spirocyclic ring; R1, R2 = alkyl, arylalkyl, cycloalkyl, alkenyl, cycloalkenyl, aryl, heteroaryl, cycloheteroalkyl; R3 = H or lower alkyl; R4 = H, halo, CF3, OH, alkyl, alkoxy, CO2H, (un)substituted NH2, cyano, (un)substituted CONH2, etc.; R7 = H, alkyl]. The compds. are HMG-CoA reductase inhibitors, and are active in inhibiting cholesterol biosynthesis and modulating blood serum lipids, for example, lowering LDL cholesterol and/or increasing HDL cholesterol (no data). I are thus useful in treating hyperlipidemia and dyslipidemia, in hormone replacement therapy, and in treating hypercholesterolemia, hypertriglyceridemia and atherosclerosis, as well as Alzheimer's disease and osteoporosis. Prepns. of several compds. are described. For instance, a multistep synthesis of fused pyridine deriv. II is reported. Compds. I may be used in a manner similar to atorvastatin, pravastatin, simvastatin, etc. Combinations of compds. I with various other drugs are claimed, the latter being specified as certain pharmacol. classes, as inhibitors of specific enzymes, as (ant)agonists of specific receptors, and as numerous named drugs.

IT **141758-74-9**, AC2993
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(therapeutic compns. also contg.; prepn. of fused pyridine derivs. as HMG-CoA reductase inhibitors)

L2 ANSWER 10 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:361520 HCAPLUS
DOCUMENT NUMBER: 137:88643
TITLE: Endoproteolysis by isolated membrane peptidases reveal metabolic stability of glucagon-like peptide-1 analogs, exendins-3 and -4
AUTHOR(S): Thum, A.; Hupe-Sodmann, K.; Goke, R.; Voigt, K.; Goke, B.; McGregor, G. P.
CORPORATE SOURCE: Institute of Physiology, Philipps-University, Marburg, D-35037, Germany
SOURCE: Experimental and Clinical Endocrinology & Diabetes (2002), 110(3), 113-118
CODEN: ECEDFQ; ISSN: 0947-7349
PUBLISHER: Johann Ambrosius Barth
DOCUMENT TYPE: Journal
LANGUAGE: English

AB These in vitro studies aimed to characterize the pattern and the kinetics of endoproteolysis of the insulinotropic hormone glucagon-like peptide-1 (GLP-1) and related peptides by native ectopeptidases. Peptides were incubated with isolated rat or pig kidney brush-border microvilli membranes, which are a rich source of the ectopeptidases that are responsible for the post-secretory metab. of peptide hormones. The proteolytic products were sepd. by reversed-phase HPLC column chromatog. and characterized by mol. mass and primary structure. The relative importance of specific peptidases was established by measuring the effects of specific peptidase inhibitors on the kinetics of proteolysis. Dipeptidyl-peptidase-IV was found to be rate-limiting in the endoproteolysis of GLP-1. GLP-1 homologs, exendins-3 and -4, exhibited exceptional stability in the presence of isolated kidney microvilli membranes. Our finding that exendin-4 is several orders of magnitude more stable than GLP-1 and Ser-8-GLP-1 is esp. noteworthy given this peptide's widely reported insulinotropic

potency.

IT **141758-74-9**, Exendin 4 (Heloderma suspectum)
RL: BSU (Biological study, unclassified); PKT (Pharmacokinetics); BIOL (Biological study)
(endoproteolysis by isolated membrane peptidases reveal metabolic stability of glucagon-like peptide-1 analogs and exendin-3 and -4)

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 11 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:850956 HCAPLUS
DOCUMENT NUMBER: 135:376777
TITLE: Peptide pharmaceutical formulations
INVENTOR(S): Holmquist, Barton; Dormady, Daniel C.
PATENT ASSIGNEE(S): Bionebraska, Inc., USA
SOURCE: PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001087322	A2	20011122	WO 2001-US15872	20010517
WO 2001087322	A3	20020718		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 2002061838	A1	20020523	US 2001-858880	20010517
PRIORITY APPLN. INFO.:			US 2000-205377P	P 20000517
			US 2000-205262P	P 20000519

AB A pharmaceutical compn. for administration to a mammal is disclosed. The compn. includes a therapeutically effective amt. of a peptide, such as a GLP-1 mol., a PTH mol., or a GRF mol. The compn. further includes a buffer including a weak acid having an acid dissocn. const. value of greater than about 1x10-5, such as acetic acid. The compn. also includes an excipient for making the compn. generally isotonic, such as D-mannitol.

IT **141758-74-9**, Exendin 4 (Heloderma suspectum)
RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(peptide pharmaceutical formulations relating to parathormone, glucagon-like peptide-1, and growth hormone-releasing factor)

L2 ANSWER 12 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:759575 HCAPLUS

DOCUMENT NUMBER: 135:298797
TITLE: Synergistic effect of a sulfonylurea and/or non-sulfonylurea K+ ATP channel blocker, and a phosphodiesterase 3 type inhibitor for the treatment of non-insulin-dependent diabetes or other conditions
INVENTOR(S): Fryburg, David Albert; Parker, Janice Catherine
PATENT ASSIGNEE(S): Pfizer Products Inc., USA
SOURCE: Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1145717	A2	20011017	EP 2001-303020	20010330
EP 1145717	A3	20020814		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 2002013268	A1	20020131	US 2001-829874	20010410
CA 2343850	AA	20011013	CA 2001-2343850	20010411
BR 2001001461	A	20011113	BR 2001-1461	20010411
JP 2001354568	A2	20011225	JP 2001-115674	20010413

PRIORITY APPLN. INFO.: US 2000-196728P P 20000413

AB The invention provides the use of a synergistic amt. of (1) a sulfonylurea, a non-sulfonylurea K+ ATP channel blocker, or a sulfonylurea and a non-sulfonylurea K+ ATP channel blocker; and (2) a cAMP phosphodiesterase type 3 inhibitor; for the manuf. of medicaments for treating or preventing non-insulin-dependent diabetes mellitus, insulin resistance, Syndrome X, diabetic neuropathy, diabetic nephropathy, diabetic retinopathy, diabetic cardiomyopathy, polycystic ovary syndrome, cataracts, hyperglycemia, or impaired glucose tolerance. The invention also provides kits and pharmaceutical compns. that comprise (1) a sulfonylurea, a non-sulfonylurea K+ ATP channel blocker, or a sulfonylurea and a non-sulfonylurea K+ ATP channel blocker: and (2) a cAMP phosphodiesterase type 3 inhibitor. The invention further provides kits and pharmaceutical compns. that comprise (1) a sulfonylurea, a non-sulfonylurea K+ ATP channel blocker, or a sulfonylurea and a non-sulfonylurea K+ ATP channel blocker: (2) a cAMP phosphodiesterase type 3 inhibitor; and (3) an addnl. compd. useful for the treatment of non-insulin-dependent diabetes mellitus, insulin resistance, Syndrome X, diabetic neuropathy, diabetic nephropathy, diabetic retinopathy, diabetic cardiomyopathy, polycystic ovary syndrome, cataracts, hyperglycemia, or impaired glucose tolerance.

IT **335149-21-8**, AC2993
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sulfonylurea and/or non-sulfonylurea K+ ATP channel blocker and phosphodiesterase 3 type inhibitor synergism for treatment of non-insulin-dependent diabetes or other conditions)

L2 ANSWER 13 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:650487 HCAPLUS

DOCUMENT NUMBER: 135:205920
TITLE: Metabolic intervention with GLP-1 to improve the function of ischemic and reperfused tissue
INVENTOR(S): Coolidge, Thomas R.; Ehlers, Mario R. W.
PATENT ASSIGNEE(S): BioNebraska, Inc., USA
SOURCE: U.S., 10 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6284725	B1	20010904	US 1999-302596	19990430
WO 2000066138	A2	20001109	WO 2000-US11251	20000427
WO 2000066138	A3	20010705		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1173197	A2	20020123	EP 2000-926404	20000427
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002543142	T2	20021217	JP 2000-615022	20000427
US 2002055460	A1	20020509	US 2001-851738	20010509
US 2002147131	A1	20021010	US 2001-953021	20010911
NO 2001005294	A	20011228	NO 2001-5294	20011029

PRIORITY APPLN. INFO.:

US 1998-103498P	P	19981008
US 1999-302596	A	19990430
WO 2000-US11251	W	20000427
US 2001-851738	A1	20010509

AB Individuals in need of treatment of ischemia-related reperfusion are treated, preferably i.v., with a compn. which includes a compd. which binds to a receptor for the glucagon-like peptide-1. The invention relates to both the method and compns. for such treatment.

IT **203743-40-2**
RL: PRP (Properties)
(unclaimed protein sequence; metabolic intervention with GLP-1 to improve the function of ischemic and reperfused tissue)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 14 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:525943 HCAPLUS
DOCUMENT NUMBER: 135:132445
TITLE: Use of exendins and agonists thereof for modulation of triglyceride levels and treatment of dyslipidemia
INVENTOR(S): Kolterman, Orville Gene; Young, Andrew A.
PATENT ASSIGNEE(S): Amylin Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 161 pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001051078	A1	20010719	WO 2001-US719	20010109
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1246638	A1	20021009	EP 2001-900978	20010109
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				

PRIORITY APPLN. INFO.: US 2000-175365P P 20000110
WO 2001-US719 W 20010109

AB Methods for modulating the levels of plasma triglyceride and other lipids in a subject comprise administration of an effective amt. of an exendin or exendin agonist, alone or in conjunction with other compds. or compns. that lower blood triglyceride and/or other lipid levels.

IT **203743-40-2**
RL: PRP (Properties)
(unclaimed protein sequence; use of exendins and agonists thereof for modulation of triglyceride levels and treatment of dyslipidemia)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 15 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:283949 HCAPLUS
DOCUMENT NUMBER: 134:311218
TITLE: Synthesis and use of heterocyclic sodium/proton exchange inhibitors
INVENTOR(S): Ahmad, Saleem; Wu, Shung C.; O'Neil, Steven V.; Ngu, Khehyong; Atwal, Karnail S.
PATENT ASSIGNEE(S): Bristol-Myers Squibb Company, USA
SOURCE: PCT Int. Appl., 221 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001027107	A2	20010419	WO 2000-US27461	20001002
WO 2001027107	A3	20020124		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1224183 A2 20020724 EP 2000-968723 20001002
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL
NO 2002001717 A 20020610 NO 2002-1717 20020411
PRIORITY APPLN. INFO.: US 1999-158755P P 19991012
WO 2000-US27461 W 20001002
OTHER SOURCE(S): MARPAT 134:311218

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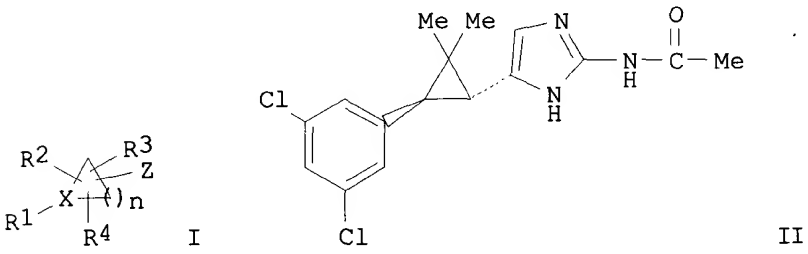

AB Compds. of formula I [wherein; n is 1-5; X is N or CR5, where R5 is H, halo, alkenyl, alkynyl, alkoxy, alkyl, aryl or heteroaryl; Z is a heteroaryl group; R1 is H, alk(en)(yn)yl, alk(enyl)(ynyl)oxy, (aryl or alkyl)3Si, cycloalk(en)yl, (aryl)amino, aryl(alkyl), cycloheteroaryl, etc.; R2, R3 and R4 are any of the groups set out for R1 and optionally substituted with 1 to 5 substituents which may be the same or different and when X is N, R1 is preferably aryl or heteroaryl] are claimed. Several hundred examples are disclosed. Synthesis of II proceeds via cyclopropanation of the cinnamate derived from the olefination between 3,5-dichlorobenzaldehyde and t-butyldiethylphosphonoacetate. The intermediate tert-Bu ester is converted to the corresponding .alpha.-chloroketone and reacted with acetyl guanidine to provide II in a total of 5 steps. Compds. I are said to be sodium/proton exchange inhibitors (NHE). Pharmaceutical combinations are claimed using I and certain antihypertensive agents, .beta.-adrenergic agonists, hypolipidemic agents, antidiabetic agents, antiobesity agents, etc. Compds. I are useful as antianginal and cardioprotective agents and provide a method for preventing or treating angina pectoris, cardiac dysfunction, myocardial necrosis, and arrhythmia.

IT **335149-21-8**, AC 2993
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(pharmaceuticals also contg.; synthesis and use of heterocyclic sodium/proton exchange inhibitors)

L2 ANSWER 16 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:247368 HCAPLUS
DOCUMENT NUMBER: 134:290749
TITLE: Pituitary adenylate cyclase activating peptide (PACAP) receptor 3 (R3) agonists and their pharmacological methods of use in treating metabolic disorders and respiratory disease
INVENTOR(S): Pan, Clark; Tsutsumi, Manami; Shanafelt, Armen B.
PATENT ASSIGNEE(S): Bayer Corporation, USA
SOURCE: PCT Int. Appl., 62 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001023420	A2	20010405	WO 2000-US26638	20000927
WO 2001023420	A3	20010830		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1192182	A2	20020403	EP 2000-967002	20000927
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: US 1999-407832 A 19990928
US 2000-595280 A 20000615
WO 2000-US26638 W 20000927

AB The invention provides novel peptides that function in vivo to stimulate insulin release from pancreatic beta cells in a glucose-dependent fashion. These insulin secretagogue peptides are shown to stimulate insulin release in rat islet cells in vitro, and in vivo. The peptides of the present invention provide a new therapy for patients with decreased endogenous insulin secretion, in particular type 2 diabetics. In particular, the invention is a polypeptide selected from a specific group of VIP/PACAP-related polypeptides, or functional equiv. thereof. The invention is also directed to a method of treating a metabolic disease or a respiratory disease in a mammal comprising administering a therapeutically effective amt. of the insulin secretagogue peptides to said mammal. Also disclosed are methods of making the peptides, both recombinant and synthetic; pharmaceutical compns. contg. the peptides; and antibodies to the peptides.

IT **203743-40-2**
RL: PRP (Properties)
(unclaimed protein sequence; pituitary adenylate cyclase

activating peptide (PACAP) receptor 3 (R3) agonists and their pharmacol. methods of use in treating metabolic disorders and respiratory disease)

L2 ANSWER 17 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:50681 HCAPLUS
DOCUMENT NUMBER: 134:110470
TITLE: Preparation of stable peptide conjugates containing variants of exendin-4 and GLP-I that lower blood glucose levels and regulate gastric emptying
INVENTOR(S): Larsen, Bjarne Due; Mikkelsen, Jens Damsgaard; Neve, Soren
PATENT ASSIGNEE(S): Zealand Pharmaceuticals A/S, Den.
SOURCE: PCT Int. Appl., 83 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001004156	A1	20010118	WO 2000-DK393	20000712
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1076066	A1	20010214	EP 1999-610043	19990809
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
EP 1196444	A1	20020417	EP 2000-945656	20000712
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2003505347	T2	20030212	JP 2001-509765	20000712

PRIORITY APPLN. INFO.:
US 1999-143591P P 19990712
EP 1999-610043 A 19990809
WO 2000-DK393 W 20000712

OTHER SOURCE(S): MARPAT 134:110470

AB The present invention relates to novel X-Z peptide conjugates which have increased stability and are useful in the treatment of excess levels of blood glucose. Peptide X selected from the group consisting of (a) an exendin having at least 90% homol. to exendin-4; (b) a variant of said exendin wherein said variant comprises a modification selected from the group consisting of between one and five deletions at positions 34-39 and contains a Lys at position 40 having a lipophilic substituent; or (c) GLP-I (7-36) or GLP-I (7-37) having at least one modification selected from the group consisting of: (i) substitution of D-alanine. glycine or alpha-amino isobutyric acid for alanine at position 8 and (ii) a lipophilic substituent. Peptide Z is a peptide sequence of 4-20 amino acid units covalently bound to variant X, wherein each amino acid unit in said peptide sequence, Z, is selected from the group

consisting of Ala, Leu, Ser, Thr, Tyr, Asn, Gln, Asp, Glu, Lys, Arg, His, Met, Orn, and amino acid units of the general formula -NH-C(R1)(R2)-C(=O)- wherein R1 and R2 are selected from the group consisting of hydrogen, C1-6-alkyl, Ph, and phenylmethyl,which are optionally substituted. R1 and R2 together with the carbon atom to which they are bound can also form a cyclopentyl, cyclohexyl. or cycloheptyl ring. The peptide X is further characterized in being effective in improving glucose tolerance in a diabetic mammal. The peptides are effective in the treatment of diseases that benefit from regulation of excess levels of blood glucose and /or regulation of gastric emptying, such as diabetes and eating disorders. The present invention also relates to methods of prepg. said novel peptides and pharmaceutical compns. contg. the peptides.

IT **320367-11-1P 320367-31-5P**
RL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of stable peptide conjugates contg. variants of exendin-4 and GLP-I that lower blood glucose levels and regulate gastric emptying)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 18 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:900675 HCAPLUS
DOCUMENT NUMBER: 134:51920
TITLE: GLP-1 as a diagnostic test to determine .beta.-cell function and the presence of impaired glucose tolerance (IGT) and type-II diabetes
INVENTOR(S): Holst, J. J.; Vilsboll, Tina
PATENT ASSIGNEE(S): Bionebraska, Inc., USA
SOURCE: PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000077039	A2	20001221	WO 2000-US16428	20000614
WO 2000077039	A3	20010329		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6344180	B1	20020205	US 1999-333415	19990615
EP 1185308	A2	20020313	EP 2000-939881	20000614
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: US 1999-333415 A 19990615
WO 2000-US16428 W 20000614

AB Since glucagon-like peptide-1 (GLP-1) is the most potent insulinotropic hormone known and has been shown to stimulate insulin secretion strongly in patients with type II diabetes, this invention uses GLP-1 or its biol. active analogs in .beta.-cell stimulatory tests in order to test .beta.-cell function in a simple way. The test provides information about insulin secretory capacity, is easy and reproducible and has insignificant side effects.

IT **203743-40-2**
RL: PRP (Properties)
(unclaimed protein sequence; gLP-1 as a diagnostic test to det. .beta.-cell function and the presence of impaired glucose tolerance (IGT) and type-II diabetes)

L2 ANSWER 19 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:861704 HCAPLUS
DOCUMENT NUMBER: 134:37033
TITLE: Use of exendins and agonists thereof for the treatment of gestational diabetes mellitus
INVENTOR(S): Hiles, Richard; Prickett, Kathryn S.
PATENT ASSIGNEE(S): Amylin Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 133 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000073331	A2	20001207	WO 2000-US14231	20000523
WO 2000073331	A3	20010628		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6506724	B1	20030114	US 1999-323867	19990601
EP 1181043	A2	20020227	EP 2000-937710	20000523
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2003501361	T2	20030114	JP 2001-500655	20000523

PRIORITY APPLN. INFO.: US 1999-323867 A 19990601
WO 2000-US14231 W 20000523

AB Methods for treating gestational diabetes which comprise administration of an effective amt. of an exendin or an exendin agonist, alone or in conjunction with other compds. or compns. that lower blood glucose levels.

IT **210829-56-4P 210829-59-7P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(use of exendins and agonists thereof for treatment of gestational diabetes mellitus in relation to combination with insulin or amylin agonist)

IT **141758-74-9**, Exendin 4 (Heloderma suspectum)
203743-40-2
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(use of exendins and agonists thereof for treatment of gestational diabetes mellitus in relation to combination with insulin or amylin agonist)

L2 ANSWER 20 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:824301 HCAPLUS
DOCUMENT NUMBER: 134:13338
TITLE: Long lasting insulinotropic peptides
INVENTOR(S): Bridon, Dominique P.; L'Archeveque, Benoit; Ezrin, Alan M.; Holmes, Darren L.; Leblanc, Anouk; St. Pierre, Serge
PATENT ASSIGNEE(S): Conjuchem, Inc., Can.
SOURCE: PCT Int. Appl., 96 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000069911	A1	20001123	WO 2000-US13563	20000517
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
WO 2000070665	A2	20001123	WO 2000-IB763	20000517
WO 2000070665	A3	20010419		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1171582	A2	20020116	EP 2000-929748	20000517
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
EP 1180121	A1	20020220	EP 2000-930796	20000517
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 2000010750	A	20020226	BR 2000-10750	20000517

AU 754770	B2	20021121	AU 2000-48555		20000517
EP 1264840	A1	20021211	EP 2002-14617		20000517
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL					
JP 2003500341	T2	20030107	JP 2000-619018		20000517
US 6329336	B1	20011211	US 2000-623618		20000905
US 6514500	B1	20030204	US 2000-657332		20000907
US 2002049153	A1	20020425	US 2001-876388		20010606
NO 2001005584	A	20020103	NO 2001-5584		20011115
PRIORITY APPLN. INFO.:			US 1999-134406P	P	19990517
			US 1999-159783P	P	19991015
			US 1999-153406P	P	19990910
			EP 2000-932570	A3	20000517
			WO 2000-IB763	W	20000517
			WO 2000-US13563	W	20000517
			US 2000-623618	A3	20000905

AB Modified insulinotropic peptides are disclosed. The modified insulinotropic peptides are capable of forming a peptidase stabilized insulinotropic peptide. The modified insulinotropic peptides are capable of forming covalent bonds with one or more blood components to form a conjugate. The conjugates may be formed in vivo or ex vivo. The modified peptides are administered to treat humans with diabetes and other related diseases.

IT **309729-73-5**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(lasting insulinotropic pepwith antidiabetic activity)

IT **203743-40-2 308815-99-8**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(long lasting insulinotropic peptides with antidiabetic activity)

IT **308244-92-0P 309728-25-4P 309729-78-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(long lasting insulinotropic peptides with antidiabetic activity)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 21 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:824291 HCAPLUS
DOCUMENT NUMBER: 134:21425
TITLE: Protection of endogenous therapeutic peptides from peptidase activity through conjugation to blood components
INVENTOR(S): Bridon, Dominique P.; Ezrin, Alan M.; Milner, Peter G.; Holmes, Darren L.; Thibaudeau, Karen
PATENT ASSIGNEE(S): Conjuchem, Inc., Can.
SOURCE: PCT Int. Appl., 733 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 2000069900 A2 20001123 WO 2000-US13576 20000517
WO 2000069900 A3 20010215
WO 2000069900 C2 20020704
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
WO 2000070665 A2 20001123 WO 2000-IB763 20000517
WO 2000070665 A3 20010419
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1105409 A2 20010613 EP 2000-936023 20000517
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
EP 1171582 A2 20020116 EP 2000-929748 20000517
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
EP 1264840 A1 20021211 EP 2002-14617 20000517
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL
JP 2003500341 T2 20030107 JP 2000-619018 20000517
US 6514500 B1 20030204 US 2000-657332 20000907
PRIORITY APPLN. INFO.: US 1999-134406P P 19990517
US 1999-153406P P 19990910
US 1999-159783P P 19991015
EP 2000-932570 A3 20000517
WO 2000-IB763 W 20000517
WO 2000-US13576 W 20000517

AB A method for protecting a peptide from peptidase activity in vivo, the peptide being composed of between 2 and 50 amino acids and having a C-terminus and an N-terminus and a C-terminus amino acid and an N-terminus amino acid is described. In the first step of the method, the peptide is modified by attaching a reactive group to the C-terminus amino acid, to the N-terminus amino acid, or to an amino acid located between the N-terminus and the C-terminus, such that the modified peptide is capable of forming a covalent bond in vivo with a reactive functionality on a blood component. The solid phase peptide synthesis of a no. of derivs. with 3-maleimidopropionic acid (3-MPA) is described. In the next step, a covalent bond is formed between the reactive group and a reactive functionality on a blood component to form a peptide-blood component conjugate, thereby protecting said peptide from peptidase activity. The final step of the method involves the analyzing of the stability of the peptide-blood component conjugate to assess the protection of the peptide from peptidase activity. Thus, the percentage of a K5

kringle peptide (Pro-Arg-Lys-Leu-Tyr-Asp-Lys-NH2) conjugated to human serum albumin via MPA remained relatively const. through a 24-h plasma assay in contrast to unmodified K5 which decreased to 9% of the original amt. of K5 in only 4 h in plasma.

IT **308245-14-9P 308245-46-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(protection of endogenous therapeutic peptides from peptidase activity through conjugation to blood components)

IT **203743-40-2 309257-15-6**
RL: PRP (Properties)
(unclaimed protein sequence; protection of endogenous therapeutic peptides from peptidase activity through conjugation to blood components)

L2 ANSWER 22 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:790546 HCAPLUS
DOCUMENT NUMBER: 133:359242
TITLE: Modified exendins and exendin agonists
INVENTOR(S): Young, Andrew; Prickett, Kathryn
PATENT ASSIGNEE(S): Amylin Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 119 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000066629	A1	20001109	WO 2000-US11814	20000428
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1175443	A1	20020130	EP 2000-928685	20000428
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 2000010705	A	20020205	BR 2000-10705	20000428
JP 2002544127	T2	20021224	JP 2000-615657	20000428

PRIORITY APPLN. INFO.: US 1999-132018P P 19990430
WO 2000-US11814 W 20000428

AB Novel modified exendins and exendin agonists having an exendin or exendin agonist linked to one or more polyethylene glycol polymers, for example, and related formulations and dosages and methods of administration thereof are provided. These modified exendins and exendin agonists, compns. and methods are useful in treating diabetes and conditions that would be benefited by lowering plasma glucose or delaying and/or slowing gastric emptying or inhibiting food intake.

IT **305814-59-9P 305815-28-5P 305815-30-9P**
305818-90-0P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PNU (Preparation, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(modified exendins and exendin agonists)

IT **141758-74-9**, Exendin 4 (Heloderma suspectum)
RL: PRP (Properties)
(unclaimed sequence; modified exendins and exendin agonists)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 23 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:790326 HCAPLUS
DOCUMENT NUMBER: 133:345167
TITLE: Metabolic intervention with GLP-1 or its biologically active analogues to improve the function of the ischemic and reperfused brain
INVENTOR(S): Coolidge, Thomas R.; Ehlers, Mario R. W.
PATENT ASSIGNEE(S): Bionebraska, Inc., USA
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000066142	A2	20001109	WO 2000-US11652	20000501
WO 2000066142	A3	20020124		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6429197	B1	20020806	US 1999-303016	19990430
EP 1187628	A2	20020320	EP 2000-928616	20000501
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002543145	T2	20021217	JP 2000-615026	20000501
NO 2001005298	A	20011228	NO 2001-5298	20011029

PRIORITY APPLN. INFO.:
US 1999-303016 A 19990430
US 1998-103498P P 19981008
WO 2000-US11652 W 20000501

AB It has now been discovered that GLP-1 treatment after acute stroke or hemorrhage, preferably i.v. administration, can be an ideal treatment because it provides a means for optimizing insulin secretion, increasing brain anabolism, enhancing insulin effectiveness by suppressing glucagon, and maintaining euglycemia or mild hypoglycemia with no risk of severe hypoglycemia.

IT **203743-40-2**
RL: PRP (Properties)
(unclaimed protein sequence; metabolic intervention with GLP-1 or

its biol. active analogs to improve the function of the ischemic and reperfused brain)

L2 ANSWER 24 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:790323 HCAPLUS
DOCUMENT NUMBER: 133:345166
TITLE: Metabolic intervention with GLP-1 to improve the function of ischemic and reperfused tissue
INVENTOR(S): Coolidge, Thomas R.; Ehlers, Mario R. W.
PATENT ASSIGNEE(S): Bionebraska, Inc., USA
SOURCE: PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000066138	A2	20001109	WO 2000-US11251	20000427
WO 2000066138	A3	20010705		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6284725	B1	20010904	US 1999-302596	19990430
EP 1173197	A2	20020123	EP 2000-926404	20000427
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002543142	T2	20021217	JP 2000-615022	20000427
NO 2001005294	A	20011228	NO 2001-5294	20011029

PRIORITY APPLN. INFO.:
US 1999-302596 A 19990430
US 1998-103498P P 19981008
WO 2000-US11251 W 20000427

AB Individuals in need of treatment of ischemia-related reperfusion are treated, preferably i.v., with a compn. which includes a compd. which binds to a receptor for the glucagon-like peptide-1. The invention relates to both the method and compns. for such treatment.

IT **203743-40-2**
RL: PRP (Properties)
(unclaimed protein sequence; metabolic intervention with GLP-1 to improve the function of ischemic and reperfused tissue)

L2 ANSWER 25 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:493318 HCAPLUS
DOCUMENT NUMBER: 133:129880
TITLE: Methods using an exendin or related substance for glucagon suppression
INVENTOR(S): Young, Andrew; Gedulin, Bronislava
PATENT ASSIGNEE(S): Amylin Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 96 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000041548	A2	20000720	WO 2000-US942	20000114
WO 2000041548	A3	20001130		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2356331	AA	20000720	CA 2000-2356331	20000114
EP 1143989	A2	20011017	EP 2000-902415	20000114
EP 1143989	A3	20020911		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 2000007823	A	20011120	BR 2000-7823	20000114
JP 2002538084	T2	20021112	JP 2000-593169	20000114
NO 2001003469	A	20010914	NO 2001-3469	20010712

PRIORITY APPLN. INFO.:		
US 1999-116380P	P	19990114
US 1999-132017P	P	19990430
US 2000-175365P	P	20000110
WO 2000-US942	W	20000114

AB Methods are provided for use of an exendin, an exendin agonist, or a modified exendin or exendin agonist having an exendin or exendin agonist linked to one or more polyethylene glycol polymers, for example, for lowering glucagon levels and/or suppressing glucagon secretion in a subject. These methods are useful in treating hyperglucagonemia and other conditions that would be benefited by lowering plasma glucagon or suppressing glucagon secretion.

IT **141758-74-9P**, Exendin 4 (Heloderma suspectum)
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(exendin or related substance for glucagon suppression)

IT **141758-74-9**, Exendin 4 (Heloderma suspectum)
RL: PRP (Properties)
(unclaimed protein sequence; methods using an exendin or related substance for glucagon suppression)

L2 ANSWER 26 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:493315 HCAPLUS
DOCUMENT NUMBER: 133:135612
TITLE: Novel exendin agonist formulations and methods of administration thereof
INVENTOR(S): Young, Andrew; L'Italien, James J.; Kolterman, Orville
PATENT ASSIGNEE(S): Amylin Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 281 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000041546	A2	20000720	WO 2000-US902	20000114
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2356706	AA	20000720	CA 2000-2356706	20000114
EP 1140145	A2	20011010	EP 2000-914425	20000114
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 2000007820	A	20011120	BR 2000-7820	20000114
JP 2002534450	T2	20021015	JP 2000-593167	20000114
NO 2001003468	A	20010914	NO 2001-3468	20010712

PRIORITY APPLN. INFO.:			
US 1999-116380P	P	19990114	
US 2000-175365P	P	20000110	
WO 2000-US902	W	20000114	

AB Novel exendin and exendin agonist compd. formulations and dosages and methods of administration thereof are provided. These compns. and methods are useful in treating diabetes and conditions that would be benefited by lowering plasma glucose or delaying and/or slowing gastric emptying or inhibiting food intake.

IT **141758-74-9P**, Exendin-4 (Heloderma suspectum)
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); PNU (Preparation, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(amino acid sequence; novel exendin agonist formulations and methods of administration thereof as antidiabetic agents and appetite suppressants)

L2 ANSWER 27 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:133809 HCAPLUS
DOCUMENT NUMBER: 132:175839
TITLE: Differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof
INVENTOR(S): Egan, Josephine; Perfetti, Riccardo; Passaniti, Antonino; Greig, Nigel; Holloway, Harold
PATENT ASSIGNEE(S): United States of America, Department of Health and Human Services, USA
SOURCE: PCT Int. Appl., 119 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000009666	A2	20000224	WO 1999-US18099	19990810
WO 2000009666	A3	20001123		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2339326	AA	20000224	CA 1999-2339326	19990810
AU 9955524	A1	20000306	AU 1999-55524	19990810
EP 1105460	A2	20010613	EP 1999-942066	19990810

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

PRIORITY APPLN. INFO.:	US 1998-95917P	P	19980810
	WO 1999-US18099	W	19990810

AB The present invention relates to a population of insulin producing cells made by a process comprising contacting non-insulin producing cells with a growth factor selected from the group consisting of GLP-1 or Exendin-4, growth factors having amino acid sequences substantially homologous to GLP-1 or Exendin-4, and fragments thereof. The present invention also relates to methods of differentiating non-insulin producing cells into insulin producing cells and of enriching a population of cells for insulin-producing cells. The present invention also relates to methods of treating diabetes. Exendin-4 was more potent an insulinotropic agent than GLP-1 on several levels when given i.v.

IT **203743-40-2**
RL: PRP (Properties)
(unclaimed protein sequence; differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)

L2 ANSWER 28 OF 40 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER:	1999:18104 HCAPLUS
DOCUMENT NUMBER:	130:178590
TITLE:	Black widow spider .alpha.-latrotoxin: a presynaptic neurotoxin that shares structural homology with the glucagon-like peptide-1 family of insulin secretagogic hormones
AUTHOR(S):	Holz, George G.; Habener, Joel F.
CORPORATE SOURCE:	Diabetes Unit, Howard Hughes Medical Institute, Massachusetts General Hospital, Harvard Medical School, Boston, MA, 02114, USA
SOURCE:	Comparative Biochemistry and Physiology, Part B: Biochemistry & Molecular Biology (1998), 121B(2), 177-184 CODEN: CBPBB8; ISSN: 0305-0491
PUBLISHER:	Elsevier Science Inc.
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB .alpha.-Latrotoxin is a presynaptic neurotoxin isolated from the venom of the black widow spider Latrodectus tredecimguttatus. It exerts toxic effects in the vertebrate central nervous system by

depolarizing neurons, by increasing [Ca2+]i and by stimulating uncontrolled exocytosis of neurotransmitters from nerve terminals. The actions of .alpha.-latrotoxin are mediated, in part, by a GTP-binding protein-coupled receptor referred to as CIRL or latrophilin. Exendin-4 is also a venom toxin, and it is derived from the salivary gland of the Gila monster Heloderma suspectum. It acts as an agonist at the receptor for glucagon-like peptide-1(7-36)-amide (GLP-I), thereby stimulating secretion of insulin from pancreatic .beta.-cells of the islets of Langerhans. Here is reported a surprising structural homol. between a-latrotoxin and exendin-4 that is also apparent amongst all members of the GLP-1-like family of secretagogic hormones (GLP-1, glucagon, vasoactive intestinal polypeptide, secretin, pituitary adenylyl cyclase activating polypeptide). On the basis of this homol., we report the synthesis and initial characterization of a chimeric peptide (Black Widow GLP-1) that stimulates Ca2+ signaling and insulin secretion in human .beta.-cells and MIN6 insulinoma cells. It is also reported here that the GTP-binding protein-coupled receptors for .alpha.-latrotoxin and exendin-4 share highly significant structural similarity in their extracellularly-oriented amino-termini. We propose that mol. mimicry has generated conserved structural motifs in secretagogic toxins and their receptors, thereby explaining the evolution of defense or predatory strategies that are shared in common amongst distantly related species including spiders, lizards, and snakes. Evidently, the toxic effects of .alpha.-latrotoxin and exendin-4 are explained by their ability to interact with GTP-binding protein-coupled receptors that normally mediate the actions of endogenous hormones or neuropeptides.

IT **141758-74-9**, Exendin 4 (Heloderma suspectum)
RL: PRP (Properties)
(latrotoxin shares structural homol. with glucagon-like peptide-1 family of insulin secretagogic hormones)

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 29 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:550504 HCAPLUS
DOCUMENT NUMBER: 129:185369
TITLE: Polynucleotides encoding proexendin, and methods and uses thereof
INVENTOR(S): Drucker, Daniel J.
PATENT ASSIGNEE(S): 1149336 Ontario Inc., Can.
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9835033	A1	19980813	WO 1998-CA71	19980204

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL,

TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

AU 9858507	A1	19980826	AU 1998-58507	19980204
EP 981611	A1	20000301	EP 1998-901908	19980204
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001512307	T2	20010821	JP 1998-533455	19980204

PRIORITY APPLN. INFO.:	US 1997-37412P	P 19970205
	GB 1997-2582	A 19970207
	WO 1998-CA71	W 19980204

AB Exendin 4 is a biol. active peptide first isolated from Gila monster venom. The invention encompasses polynucleotides encoding proexendin peptides, including exendin and novel peptides, as well as isolated or recombinant proexendin peptides. The invention also includes antibodies which specifically recognize such peptides.

IT **211430-73-8**, Exendin ENTP (Heloderma horridum)
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence of mature; gene encoding proexendin from Heloderma horridum and applications)

IT **188265-76-1**, Exendin 4, pro- (Heloderma suspectum)
203743-40-2 211430-62-5
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; gene encoding proexendin from Heloderma horridum and applications)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 30 OF 40 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER:	1998:490528 HCAPLUS
DOCUMENT NUMBER:	129:149256
TITLE:	Preparation of exendin peptides for the reduction of food intake
INVENTOR(S):	Beeley, Nigel Robert Arnold; Prickett, Kathryn S.; Bhavsar, Sunil
PATENT ASSIGNEE(S):	Amylin Pharmaceuticals, Inc., USA
SOURCE:	PCT Int. Appl., 214 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9830231	A1	19980716	WO 1998-US449	19980107

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES,

FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

AU	9862394	A1	19980803	AU 1998-62394	19980107
AU	739020	B2	20011004		
EP	996459	A1	20000503	EP 1998-904545	19980107

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

JP	2002508742	T2	20020319	JP 1998-531147	19980107
US	2002137666	A1	20020926	US 1998-3869	19980107
WO	9907404	A1	19990218	WO 1998-US16387	19980806

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU	9887729	A1	19990301	AU 1998-87729	19980806
AU	749914	B2	20020704		
EP	1019077	A1	20000719	EP 1998-939260	19980806

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

BR	9811866	A	20000815	BR 1998-11866	19980806
JP	2001513512	T2	20010904	JP 2000-506993	19980806
CA	2309356	AA	19990527	CA 1998-2309356	19981113
CA	2310097	AA	19990527	CA 1998-2310097	19981113
WO	9925727	A2	19990527	WO 1998-US24210	19981113

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

WO	9925728	A1	19990527	WO 1998-US24273	19981113

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU	9914046	A1	19990607	AU 1999-14046	19981113
AU	9914588	A1	19990607	AU 1999-14588	19981113
EP	1032587	A1	20000906	EP 1998-958573	19981113

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

BR	9814189	A	20001003	BR 1998-14189	19981113
BR	9815670	A	20001017	BR 1998-15670	19981113
EP	1066314	A1	20010110	EP 1998-957897	19981113

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

JP 2001523688 T2 20011127 JP 2000-521108 19981113
PRIORITY APPLN. INFO.: US 1997-34905P P 19970107
US 1997-55404P P 19970808
US 1997-65442P P 19971114
US 1997-66029P P 19971114
WO 1998-US449 W 19980107
WO 1998-US16387 W 19980806
WO 1998-US24210 W 19981113
WO 1998-US24273 W 19981113

AB Methods for treating conditions or disorders which can be alleviated by reducing food intake are disclosed which comprise administration of an effective amt. of an exendin or an exendin agonist, alone or in conjunction with other compds. or compns. that effect satiety. Approx. 180 exendin-related peptides were synthesized by the solid-phase method.

IT **203743-40-2P 210829-56-4P 210829-59-7P**
RL: FFD (Food or feed use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of exendin peptides for the redn. of food intake)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 31 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:287874 HCAPLUS
DOCUMENT NUMBER: 129:78077
TITLE: Molecular cloning of the helodermin and exendin-4 cDNAs in the lizard. Relationship to vasoactive intestinal polypeptide/pituitary adenylate cyclase activating polypeptide and glucagon-like peptide 1 and evidence against the existence of mammalian homologues
AUTHOR(S): Pohl, Markus; Wank, Stephen A.
CORPORATE SOURCE: Digestive Diseases Branch, NIDDK, Natl. Inst. of Health, Bethesda, MD, 20892, USA
SOURCE: Journal of Biological Chemistry (1998), 273(16), 9778-9784
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Helodermin and exendin-4, two peptides isolated from the salivary gland of the Gila monster, Heloderma suspectum, are approx. 50% homologous to vasoactive intestinal peptide (VIP) and glucagon-like peptide-1 (GLP-1), resp., and interact with the mammalian receptors for VIP and GLP-1 with equal or higher affinity and efficacy. Immunohistochem. studies suggested the presence of helodermin-like peptides in mammals. To det. whether helodermin and exendin-4 are present in mammals and their evolutionary relationship to VIP and GLP-1, their cDNAs were first cloned from Gila monster salivary gland. Northern blots and reverse transcription-polymerase chain reaction of multiple Gila monster tissues identified .apprx.500-base pair transcripts only from salivary gland. Both helodermin and exendin-4 full-length cDNAs were .apprx.500 base pairs long, and they encoded precursor proteins contg. the entire amino acid sequence of helodermin and exendin-4, as well as a 44- or 45-amino acid N-terminal extension peptide, resp., having .apprx.60% homol.

The size and structural organization of these cDNAs indicated that they are closely related to one another but markedly different from known cDNAs for the VIP/GLP-1 peptide family previously identified in both lower and higher evolved species. Cloning of the Gila monster VIP/peptide histidine isoleucine, pituitary adenylate cyclase activating polypeptide, and glucagon/GLP-1 cDNAs and Southern blotting of Gila monster DNA demonstrate the coexistence of sep. genes for these peptides and suggests, along with the restricted salivary gland expression, that helodermin and exendin-4 coevolved to serve a sep. specialized function. Probing of a variety of rat and human tissues on Northern blots, human and rat Southern blots, and genomic and cDNA libraries with either helodermin- or exendin-4-specific cDNAs failed to identify evidence for mammalian homologs. These data indicate that helodermin and exendin-4 are not the precursors to VIP and GLP-1 and that they belong to a sep. peptide family encoded by sep. genes. Furthermore, the existence of as yet undiscovered mammalian homologs to helodermin and exendin-4 seems unlikely.

IT **141758-74-9**, Exendin 4 (Heloderma suspectum)
188265-76-1, Exendin 4, pro- (Heloderma suspectum)
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; mol. cloning and sequence of the helodermin and exendin-4 cDNAs in the Gila monster)

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 32 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:112250 HCAPLUS
DOCUMENT NUMBER: 128:192936
TITLE: Preparation of exendin peptide analogs as agonists for regulating gastrointestinal motility
INVENTOR(S): Young, Andrew A.; Gedulin, Bronislava; Beeley, Nigel Robert Arnold; Prickett, Kathryn S.
PATENT ASSIGNEE(S): Amylin Pharmaceuticals, Inc., USA; Young, Andrew A.; Gedulin, Bronislava; Beeley, Nigel Robert Arnold; Prickett, Kathryn S.
SOURCE: PCT Int. Appl., 70 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9805351	A1	19980212	WO 1997-US14199	19970808

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

AU 9740636 A1 19980225 AU 1997-40636 19970808
EP 966297 A1 19991229 EP 1997-938261 19970808
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
JP 2001501593 T2 20010206 JP 1998-508263 19970808
PRIORITY APPLN. INFO.: US 1996-694954 A 19960808
WO 1997-US14199 W 19970808
OTHER SOURCE(S): MARPAT 128:192936

AB Methods for reducing gastric motility and delaying gastric emptying for therapeutic and diagnostic purposes are disclosed which comprise administration of an effective amt. of an exendin or an exendin agonist H-Xaa1-Xaa2-Xaa3-Gly-Thr-Xaa4-Xaa5-Xaa6-Xaa7-Xaa8-Ser-Lys-Gln-Xaa9-Glu-Glu-Glu-Ala-Val-Arg-Leu-Xaa10-Xaa11-Xaa12-Xaa13-Leu-Lys-Asn-Gly-Gly-Xaa14-Ser-Ser-Gly-Ala-Xaa15-Xaa16-Xaa17-Xaa18-Z [Xaa1 = His, Arg, Tyr; Xaa2 = Ser, Gly, Ala, Thr; Xaa3, Xaa7, Xaa12 = independently Asp, Glu; Xaa4, Xaa10 = independently Phe, Tyr, naphthylalanine; Xaa5, Xaa6 = independently Thr, Ser; Xaa8, Xaa9 = independently Leu, Ile, Val, pentylglycine, Met; Xaa11 = any group Xaa8, tert-butylglycine; Xaa13 = any group Xaa4, Trp; Xaa14-Xaa17 = independently Pro, homoproline, 3-Hyp, 4-Hyp, thioproline, N-alkylglycine, N-alkylpentylglycine, N-alkylalanine; Xaa18 = Ser, Thr, Tyr; Z = OH, NH2; with the proviso that the compd. does not have the formula of exendin-3 or exendin-4] or a pharmaceutically acceptable salt thereof. Methods for treating conditions assocd. with elevated, inappropriate, or undesired post-prandial blood glucose levels are disclosed which comprise administration of an effective amt. of an exendin or an exendin agonist alone or in conjunction with other anti-gastric emptying agents. Thus, exendin-4 acid and [Leu14,Phe25]-exendin-4, prepd. by std. solid-phase methods on a 4-(2,4-dimethoxyphenyl)-Fmoc-aminomethylphenoxyacetamide norleucine-MBHA resin using 9-fluorenylmethoxycarbonyl (Fmoc)-protected amino acids, inhibited gastric emptying in male HSD rats with EC50 = 0.12 and 0.29 .mu.g. Exendin-4 showed EC50 = 0.27 .mu.g under the same conditions.

IT **141758-74-9P**, Exendin-4 (Heloderma suspectum)
203743-28-6P 203743-30-0P 203743-40-2P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of exendin peptide analogs as agonists for regulating gastrointestinal motility)

L2 ANSWER 33 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:577997 HCAPLUS
DOCUMENT NUMBER: 127:257827
TITLE: Novel signal transduction and peptide specificity of glucagon-like peptide receptor in 3T3-L1 adipocytes
AUTHOR(S): Montrose-Rafizadeh, Chahrzad; Yang, Huan; Wang, Yihong; Roth, Jesse; Montrose, Marshall H.; Adams, Lisa G.
CORPORATE SOURCE: Laboratory of Clinical Physiology, Gerontology Research Center, National Institute on Aging, NIH, Baltimore, MD, USA
SOURCE: Journal of Cellular Physiology (1997), 172(3), 275-283
CODEN: JCLLAX; ISSN: 0021-9541

PUBLISHER: Wiley-Liss
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Glucagon-like peptide-1 (7-36) amide (GLP-1), in addn. to its well known effect of enhancing glucose-mediated insulin release, has been shown to have insulinomimetic effects and to enhance insulin-mediated glucose uptake and lipid synthesis in 3T3-L1 adipocytes. To elucidate the mechanisms of GLP-1 action in these cells, the authors studied the signal transduction and peptide specificity of the GLP-1 response. In 3T3-L1 adipocytes, GLP-1 caused a decrease in intracellular cAMP levels which is the opposite to the response obsd. in pancreatic beta cells in response to the same peptide. In 3T3-L1 adipocytes, free intracellular calcium was not modified by GLP-1. Peptide specificity was examd. to help det. if a different GLP receptor isoform was expressed in 3T3-L1 adipocytes vs. beta cells. Peptides with partial homol. to GLP-1 such as GLP-2, GLP-1 (1-36), and glucagon all lowered cAMP levels in 3T3-L1 adipocytes. In addn., an antagonist of pancreatic GLP-1 receptor, exendin-4 (9-39), acted as an agonist to decrease cAMP levels in 3T3-L1 adipocytes as did exendin-4 (1-39), a known agonist for the pancreatic GLP-1 receptor. Binding studies using 125I-GLP-1 also suggest that pancreatic GLP-1 receptor isoform is not responsible for the effect of GLP-1 and related peptides in 3T3-L1 adipocytes. Based on these results, the authors propose that the major form of the GLP receptor in 3T3-L1 adipocytes is functionally different from the pancreatic GLP-1 receptor.

IT **141758-74-9**, Exendin 4 (Heloderma suspectum)
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(signal transduction and peptide specificity of glucagon-like peptide receptor in 3T3-L1 adipocytes)

L2 ANSWER 34 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:567059 HCAPLUS
DOCUMENT NUMBER: 127:257697
TITLE: High potency antagonists of the pancreatic glucagon-like peptide-1 receptor
AUTHOR(S): Montrose-Rafizadeh, Chahrzad; Yang, Huan; Rodgers, Buel D.; Beday, Alvie; Pritchette, Louella A.; Eng, John
CORPORATE SOURCE: Laboratory of Clinical Physiology, NIA, National Institutes of Health, Baltimore, MD, 21224, USA
SOURCE: Journal of Biological Chemistry (1997), 272(34), 21201-21206
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB GLP-1-(7-36)-amide and exendin-4-(1-39) are glucagon-like peptide-1 (GLP-1) receptor agonists, whereas exendin-(9-39) is the only known antagonist. To analyze the transition from agonist to antagonist and to identify the amino acid residues involved in ligand activation of the GLP-1 receptor, we used exendin analogs with successive N-terminal truncations. Chinese hamster ovary cells stably transfected with the rat GLP-1 receptor were assayed for changes in intracellular cAMP caused by the test peptides in the

absence or presence of half-maximal stimulatory doses of GLP-1. N-terminal truncation of a single amino acid reduced the agonist activity of the exendin peptide, whereas N-terminal truncation of 3-7 amino acids produced antagonists that were 4-10-fold more potent than exendin-(9-39). N-terminal truncation of GLP-1 by 2 amino acids resulted in weak agonist activity, but an 8-amino acid N-terminal truncation inactivated the peptide. Binding studies performed using 125I-labeled GLP-1 confirmed that all bioactive peptides specifically displaced tracer with high potency. In a set of exendin/GLP-1 chimeric peptides, substitution of GLP-1 sequences into exendin-(3-39) produced loss of antagonist activity with conversion to a weak agonist. The results show that receptor binding and activation occur in sep. domains of exendin, but they are more closely coupled in GLP-1.

IT **141758-74-9**, Exendin 4 (Heloderma suspectum)
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(glucagon-like peptide-1 receptor high potency antagonists and structure-activity relations thereof)

L2 ANSWER 35 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:127672 HCAPLUS
DOCUMENT NUMBER: 126:223096
TITLE: Tissue-specific expression of unique mRNAs that encode proglucagon-derived peptides or exendin 4 in the lizard
AUTHOR(S): Chen, Yuqing E.; Drucker, Daniel J.
CORPORATE SOURCE: Toronto Hosp., Univ. Toronto, Toronto, ON, M5G 2C4, Can.
SOURCE: Journal of Biological Chemistry (1997), 272(7), 4108-4115
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Glucagon-like peptide 1 stimulates insulin secretion and inhibits glucagon secretion, gastric emptying, and feeding, suggesting it may be biol. useful for the treatment of diabetes. A lizard glucagon-like peptide 1(GLP-1)-related peptide, exendin 4, binds to the GLP-1 receptor and mimics the actions of GLP-1 in vivo. To det. the genetic relationship between exendin 4 and GLP-1, the authors analyzed the structure and expression of pancreatic and intestinal proglucagon mRNAs in the reptile Heloderma suspectum. Two different proglucagon cDNAs (lizard proglucagon I (LPI) and lizard proglucagon II (LPII)), with unique 3'-untranslated regions were identified. Two LPI mRNA transcripts, .apprx.1.6 and 2.1 kilobases, encoded glucagon and GLP-1 but not GLP-2 and were restricted in expression to the pancreas. In contrast, a 1.1-kilobase LPII mRNA transcript, encoding glucagon, GLP-1, and GLP-2 utilized a different 3'-untranslated region and was expressed in both pancreas and intestine. Lizard proglucagon mRNA transcripts were not detectable by reverse transcription-polymerase chain reaction or Northern blotting in salivary gland. A single class of lizard salivary gland proexendin cDNAs encoded the sequence of exendin 4 and a 45-amino acid exendin N-terminal peptide. Exendin mRNA transcripts were expressed in the salivary gland, but not pancreas or intestine.

These data demonstrate that GLP-1 and exendin 4 represent related yet distinct peptide encoded by different genes in the lizard.

IT **188265-76-1**, Exendin 4, pro- (Heloderma suspectum)
RL: PRP (Properties)
(amino acid sequence; unique mRNAs that encode proglucagon-derived peptides or exendin 4 tissue-specific expression in lizard)

L2 ANSWER 36 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:675100 HCAPLUS
DOCUMENT NUMBER: 123:74913
TITLE: Exendin-3 and exendin-4 polypeptides, and pharmaceutical compositions comprising them
INVENTOR(S): Eng, John
PATENT ASSIGNEE(S): USA
SOURCE: U.S., 17 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5424286	A	19950613	US 1993-66480	19930524

PRIORITY APPLN. INFO.: US 1993-66480 19930524

AB This invention encompasses pharmaceutical compns. contg. exendin-3 or exendin-4, fragments thereof, or any combination thereof, and methods for the treatment of diabetes mellitus and the prevention of hyperglycemia.

IT **141758-74-9**, Exendin 4 (Heloderma suspectum)
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(exendin-3 and exendin-4 polypeptides, and pharmaceutical compns. comprising them)

L2 ANSWER 37 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:622490 HCAPLUS
DOCUMENT NUMBER: 121:222490
TITLE: Use of 125I-[Y39]exendin-4 to characterize exendin receptors on dispersed pancreatic acini and gastric chief cells from guinea pig
AUTHOR(S): Singh, Gurcharn; Eng, John; Raufman, Jean-Pierre
CORPORATE SOURCE: Gastrointestinal Cell Biology Laboratory, State University of New York-Health Science Center at Brooklyn, 450 Clarkson Avenue-Box 1196, Brooklyn, NY, 11203-2098, USA
SOURCE: Regulatory Peptides (1994), 53(1), 47-59
CODEN: REPPDY; ISSN: 0167-0115
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We synthesized and iodinated an exendin-4 analog, [Y39]exendin-4 (700 Ci/mmol), for use as a radioligand to characterize exendin receptors on dispersed pancreatic acini and gastric chief cells from guinea pig. Binding of this bioactive radioligand was rapid, temp.-dependent and specific (not inhibited by other pancreatic or gastric secretagogues). Measurement of the ability of exendin-4 to

inhibit the binding of 125I-[Y39]exendin-4 indicated the presence of two classes of receptors. Pancreatic acini had 12.5 .times. 1010 binding sites/mg acinar protein of which 6% were high affinity (Kd = 0.5 nM) and 94% were low affinity (Kd = 0.1 .mu.M). Chief cells had 3370 binding sites/cell of which 9% were high affinity (Kd = 0.3 nM) and 91% were low affinity (Kd = 0.2 .mu.M). Washing with 0.2 M acetic acid (pH 2.5), 0.2 M glycine (pH 10.5), or trypsin (100 .mu.g/mL) after 30 min incubation at 37.degree., indicated that 63 and 49% of radioligand was internalized in acini and chief cells, resp. Truncated glucagon-like peptide-1 (tGLP-1), a mammalian peptide sharing 53% homol. with exendin-4, inhibited radioligand binding at the same concns. that altered secretion from acini and chief cells. Glucagon, GLP-1 and GLP-2 inhibited 125I-[Y39]exendin-4 binding only at concns. .gtoreq.100 nM. Exendin(9-39)NH2, a specific exendin-receptor antagonist, potently inhibited 125I-[Y39] exendin-4 binding (IC50 = 6.1 and 3.5 nM in acini and chief cells, resp.). In pancreatic acini and gastric chief cells from guinea pig, exendin-3, exendin-4 and tGLP-1 increase cellular cAMP and modulate enzyme secretion by interacting with high-affinity exendin receptors. 125I-[Y39] exendin-4 is a useful radioligand for studying exendin receptors.

IT **141758-74-9**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(cAMP formation and enzyme secretion by pancreas acinus and stomach chief cells response to)

L2 ANSWER 38 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:597526 HCAPLUS
DOCUMENT NUMBER: 119:197526
TITLE: Exendin-4 is a high potency agonist and truncated exendin-(9-39)-amide an antagonist at the glucagon-like peptide 1-(7-36)-amide receptor of insulin-secreting .beta.-cells
AUTHOR(S): Goeke, Ruediger; Fehmann, Hans Christoph; Linn, Thomas; Schmidt, Harald; Krause, Michael; Eng, John; Goeke, Burkhard
CORPORATE SOURCE: Dep. Intern. Med., Philipps Univ., Marburg, 3550, Germany
SOURCE: Journal of Biological Chemistry (1993), 268(26), 19650-5
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Exendin-4 purified from Heloderma suspectum venom shows structural relationship to the important incretin hormone glucagon-like peptide 1-(7-36)-amide (GLP-1). The authors demonstrate that exendin-4 and truncated exendin-(9-39)-amide specifically interact with the GLP-1 receptor on insulinoma-derived cells and on lung membranes. Exendin-4 displaced 125I-GLP-1, and unlabeled GLP-1 displaced 125I-exendin-4 from the binding site at rat insulinoma-derived RINm5F cells. Exendin-4 had, like GLP-1, a pronounced effect on intracellular cAMP generation, which was reduced by exendin-(9-39)-amide. When combined, GLP-1 and exendin-4 showed additive action on cAMP. They each competed with the radiolabeled version of the other peptide in crosslinking expts. The apparent mol. mass of the resp. ligand-binding protein complex was 63,000 Da. Exendin-(9-39)-amide abolished the crosslinking of both peptides.

Exendin-4, like GLP-1, stimulated dose dependently the glucose-induced insulin secretion in isolated rat islets, and, in mouse insulinoma .beta.TC-1 cells, both peptides stimulated the proinsulin gene expression at the level of transcription. Exendin-(9-39)-amide reduced these effects. In conclusion, exendin-4 is an agonist and exendin-(9-39)-amide is a specific GLP-1 receptor antagonist.

IT **141758-74-9**
RL: BIOL (Biological study)
(glucagon-like peptide 1-(7-36)-amide receptor of .beta.-cells and lung response to)

L2 ANSWER 39 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:564310 HCAPLUS
DOCUMENT NUMBER: 117:164310
TITLE: Truncated glucagon-like peptide-1 interacts with exendin receptors on dispersed acini from guinea pig pancreas. Identification of a mammalian analogue of the reptilian peptide exendin-4
AUTHOR(S): Raufman, Jean Pierre; Singh, Latika; Singh, Gurcharn; Eng, John
CORPORATE SOURCE: Health Sci. Cent., State Univ. New York, Brooklyn, NY, 11203-2098, USA
SOURCE: Journal of Biological Chemistry (1992), 267(30), 21432-7
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English

AB To find mammalian analogs of exendin-4, a peptide from Helodermatidae venoms that interacts with newly discovered exendin receptors on dispersed acini from guinea pig pancreas, the actions of glucagon-like peptide-1 [GLP-1(1-37)], its truncated form GLP-1(7-36)NH2, GLP-2(1-34), and pituitary adenylate cyclase-activating peptide were examd. and compared with secretin, VIP, and glucagon. Only the truncated form of glucagon-like peptide-1, GLP-1(7-36)NH2 mimicked the actions of exendin-4. Like exendin-4, GLP-1(7-36)NH2 increased acinar cAMP without stimulating amylase release. GLP-1(7-36)NH2-induced increases in cAMP were inhibited progressively by increasing concns. of the specific exendin-receptor antagonist, exendin(9-39)NH2. In dispersed acini from guinea pig and rat pancreas, concns. of GLP-1(7-36)NH2 that stimulated increases in cAMP caused potentiation of cholecystokinin-induced amylase release. Binding of 125I-[Y39]exendin-4 or 125I-GLP-1(7-36)NH2 to dispersed acini from guinea pig pancreas was inhibited by adding increasing concns. of unlabeled exendin-4 or GLP-1(7-36)NH2. Thus, the mammalian peptide GLP-1(7-36)NH2 interacts with exendin receptors on dispersed acini from guinea pig pancreas. Exendin(9-39)NH2, a competitive antagonist of the actions of GLP-1(7-36)NH2 in pancreatic acini, may be a useful for examg. the physiol. actions of this peptide.

IT **141758-74-9**
RL: BIOL (Biological study)
(glucagon-like peptide 1 truncated form as mammalian analog of)

L2 ANSWER 40 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:402472 HCAPLUS
DOCUMENT NUMBER: 117:2472
TITLE: Isolation and characterization of exendin-4, an

exendin-3 analog, from Heloderma suspectum venom. Further evidence for an exendin receptor on dispersed acini from guinea pig pancreas

AUTHOR(S): Eng, John; Kleinman, Wayne A.; Singh, Latika; Singh, Gurcharn; Raufman, Jean Pierre

CORPORATE SOURCE: Solomon A Berson Res. Lab., Veterans Aff. Med. Cent., Bronx, NY, 10468, USA

SOURCE: Journal of Biological Chemistry (1992), 267(11), 7402-5
CODEN: JBCHA3; ISSN: 0021-9258

DOCUMENT TYPE: Journal

LANGUAGE: English

AB An amino acid sequencing assay for peptides contg. an amino-terminal histidine residue (His1) was used to isolate a 39-amino acid peptide, exendin-4, from H. suspectum venom. Exendin-4 differs from exendin-3 by two amino acid substitutions, Gly2-Glu3 in place of Ser2-Asp3, but is otherwise identical. The structural differences make exendin-4 distinct from exendin-3 in its bioactivity. In dispersed acini from guinea pig pancreas, natural and synthetic exendin-4 stimulate a monophasic increase in cAMP beginning at 100 pM that plateaus at 10 nM. The exendin-4-induced increase in cAMP is inhibited progressively by increasing concns. of the exendin receptor antagonist, exendin-(9-39) amide. Unlike exendin-3, exendin-4 does not stimulate a second rise in acinar cAMP at concns. >100 nM, does not stimulate amylase release, and does not inhibit the binding of radiolabeled vasoactive intestinal peptide to acini. This indicates that in dispersed pancreatic acini, exendin-4 interacts only with the recently described exendin receptor.

IT **141758-74-9**
RL: PRP (Properties)
(amino acid sequence of, complete)

=> sel hit l2 1-40 rn
E72 THROUGH E101 ASSIGNED

FILE 'REGISTRY' ENTERED AT 10:32:52 ON 14 FEB 2003

L3 29 SEA FILE=REGISTRY ABB=ON PLU=ON (141758-74-9/BI OR 203743-40-2/BI OR 188265-76-1/BI OR 210829-56-4/BI OR 210829-59-7/BI OR 335149-21-8/BI OR 203743-28-6/BI OR 203743-30-0/BI OR 211430-62-5/BI OR 211430-73-8/BI OR 305814-59-9/BI OR 305815-28-5/BI OR 305815-30-9/BI OR 305818-90-0/BI OR 308244-92-0/BI OR 308245-14-9/BI OR 308245-46-7/BI OR 308815-99-8/BI OR 309257-15-6/BI OR 309728-25-4/BI OR 309729-73-5/BI OR 309729-78-0/BI OR 320367-11-1/BI OR 320367-31-5/BI OR 435950-95-1/BI OR 437124-38-4/BI OR 437124-39-5/BI OR 437124-51-1/BI OR 437124-53-3/BI OR 474444-81-0/BI)

L4 29 L3 AND L1

L4 ANSWER 1 OF 29 REGISTRY COPYRIGHT 2003 ACS

RN **474444-81-0** REGISTRY

CN L-Serine, L-histidylglycyl-L-.alpha.-glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L-.alpha.-aspartyl-L-leucyl-L-seryl-L-lysyl-L-glutaminyl-L-methionyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-alanyl-L-valyl-L-arginyl-L-leucyl-L-phenylalanyl-L-isoleucyl-L-.alpha.-glutamyl-L-tryptophyl-L-leucyl-L-lysyl-L-asparaginylglycylglycyl-L-prolyl-L-seryl-L-serylglycyl-L-

alanyl-L-prolyl-L-prolyl-L-prolyl- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 5: PN: WO02085406 SEQID: 9 unclaimed protein
CI MAN
SQL 39

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPS
========== ========== ========== =========
HITS AT: 1-39

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 137:346934

L4 ANSWER 2 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **437124-53-3** REGISTRY
CN exendin-4 fusion protein with a linker and human IgG1 fragment (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 29: PN: WO0246227 SEQID: 31 claimed protein
CI MAN
SQL 287

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSG GGGSGGGGSG
========== ========== ========== =========
51 GGGSAEPKSC DKTHTCPPCP APELLGGPSV FLFPPKPKDT LMISRTPEVT
101 CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH
151 QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVYT LPPSREEMTK
201 NQVSLTCLVK GFYPSDIAVE WESNGQPENN YKTTPPVLDS DGSFFLYSKL
251 TVDKSRWQQG NVFSCSVMHE ALHNHYTQKS LSLSPGK
HITS AT: 1-39

REFERENCE 1: 137:28591

L4 ANSWER 3 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **437124-51-1** REGISTRY
CN exendin-4 fusion protein with human IgG1 fragment (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 27: PN: WO0246227 SEQID: 29 claimed protein
CI MAN
SQL 272

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSA EPKSCDKTHT
========== ========== ========== =========
51 CPPCPAPELL GGPSVFLFPP KPKDTLMISR TPEVTCVVVD VSHEDPEVKF
101 NWYVDGVEVH NAKTKPREEQ YNSTYRVVSV LTVLHQDWLN GKEYKCKVSN
151 KALPAPIEKT ISKAKGQPRE PQVYTLPPSR EEMTKNQVSL TCLVKGFYPS
201 DIAVEWESNG QPENNYKTTP PVLDSDGSFF LYSKLTVDKS RWQQGNVFSC
251 SVMHEALHNH YTQKSLSLSP GK
HITS AT: 1-39

REFERENCE 1: 137:28591

L4 ANSWER 4 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **437124-39-5** REGISTRY
CN exendin-4 fusion protein with linker and human serum albumin (9CI) (CA INDEX NAME)

OTHER NAMES:
CN 16: PN: WO0246227 SEQID: 17 claimed protein
CI MAN
SQL 640

```
SEQ      1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSG GGGGSGGGGS
           ========== ========== ========== =========
        51 GGGGSDAHKS EVAHRFKDLG EENFKALVLI AFAQYLQQCP FEDHVKLVNE
       101 VTEFAKTCVA DESAENCDKS LHTLFGDKLC TVATLRETYG EMADCCAKQE
       151 PERNECFLQH KDDNPNLPRL VRPEVDVMCT AFHDNEETFL KKYLYEIARR
       201 HPYFYAPELL FFAKRYKAAF TECCQAADKA ACLLPKLDEL RDEGKASSAK
       251 QRLKCASLQK FGERAFKAWA VARLSQRFPK AEFAEVSKLV TDLTKVHTEC
       301 CHGDLLECAD DRADLAKYIC ENQDSISSKL KECCEKPLLE KSHCIAEVEN
       351 DEMPADLPSL AADFVESKDV CKNYAEAKDV FLGMFLYEYA RRHPDYSVVL
       401 LLRLAKTYET TLEKCCAAAD PHECYAKVFD EFKPLVEEPQ NLIKQNCELF
       451 EQLGEYKFQN ALLVRYTKKV PQVSTPTLVE VSRNLGKVGS KCCKHPEAKR
       501 MPCAEDYLSV VLNQLCVLHE KTPVSDRVTK CCTESLVNRR PCFSALEVDE
       551 TYVPKEFNAE TFTFHADICT LSEKERQIKK QTALVELVKH KPKATKQQLK
       601 AVMDDFAAFV EKCCKADDKE TCFAEEGKKL VAASQAALGL
HITS AT:  1-39
```

REFERENCE 1: 137:28591

L4 ANSWER 5 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **437124-38-4** REGISTRY
CN exendin-4 fusion protein with human serum albumin (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 15: PN: WO0246227 SEQID: 16 claimed protein
CI MAN
SQL 624

```
SEQ      1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSD AHKSEVAHRF
           ========== ========== ========== =========
        51 KDLGEENFKA LVLIAFAQYL QQCPFEDHVK LVNEVTEFAK TCVADESAEN
       101 CDKSLHTLFG DKLCTVATLR ETYGEMADCC AKQEPERNEC FLQHKDDNPN
       151 LPRLVRPEVD VMCTAFHDNE ETFLKKYLYE IARRHPYFYA PELLFFAKRY
       201 KAAFTECCQA ADKAACLLPK LDELRDEGKA SSAKQRLKCA SLQKFGERAF
       251 KAWAVARLSQ RFPKAEFAEV SKLVTDLTKV HTECCHGDLL ECADDRADLA
       301 KYICENQDSI SSKLKECCEK PLLEKSHCIA EVENDEMPAD LPSLAADFVE
       351 SKDVCKNYAE AKDVFLGMFL YEYARRHPDY SVVLLLRLAK TYETTLEKCC
       401 AAADPHECYA KVFDEFKPLV EEPQNLIKQN CELFEQLGEY KFQNALLVRY
       451 TKKVPQVSTP TLVEVSRNLG KVGSKCCKHP EAKRMPCAED YLSVVLNQLC
       501 VLHEKTPVSD RVTKCCTESL VNRRPCFSAL EVDETYVPKE FNAETFTFHA
       551 DICTLSEKER QIKKQTALVE LVKHKPKATK EQLKAVMDDF AAFVEKCCKA
       601 DDKETCFAEE GKKLVAASQA ALGL
HITS AT:  1-39
```

REFERENCE 1: 137:28591

L4 ANSWER 6 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **435950-95-1** REGISTRY
CN L-Serinamide, L-histidylglycyl-L-.alpha.-glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L-.alpha.-aspartyl-L-leucyl-L-seryl-L-lysyl-L-glutaminyl-L-methionyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-alanyl-L-valyl-L-arginyl-L-leucyl-L-phenylalanyl-L-isoleucyl-L-.alpha.-glutamyl-L-tryptophyl-L-leucyl-L-lysyl-L-asparaginylglycylglycyl-L-prolyl-L-seryl-L-serylglycyl-L-

alanyl-L-prolyl-L-prolyl-L-prolyl- (9CI) (CA INDEX NAME)
CI MAN
SQL 39

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPS
========== ========== ========== =========
HITS AT: 1-39

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 137:28591

L4 ANSWER 7 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **320367-31-5** REGISTRY
CN L-Lysinamide, L-histidylglycyl-L-.alpha.-glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L-.alpha.-aspartyl-L-leucyl-L-seryl-L-lysyl-L-glutaminyl-L-methionyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-alanyl-L-valyl-L-arginyl-L-leucyl-L-phenylalanyl-L-isoleucyl-L-.alpha.-glutamyl-L-tryptophyl-L-leucyl-L-lysyl-L-asparaginylglycylglycyl-L-prolyl-L-seryl-L-serylglycyl-L-alanyl-L-prolyl-L-prolyl-L-prolyl-L-seryl-N6-(1-oxohexadecyl)-L-lysyl-L-lysyl-L-lysyl-L-lysyl-L-lysyl-L-lysyl- (9CI) (CA INDEX NAME)
CI MAN
SQL 46

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSK KKKKKK
========== ========== ========== =========
HITS AT: 1-39

REFERENCE 1: 134:110470

L4 ANSWER 8 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **320367-11-1** REGISTRY
CN L-Lysinamide, L-histidylglycyl-L-.alpha.-glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L-.alpha.-aspartyl-L-leucyl-L-seryl-L-lysyl-L-glutaminyl-L-methionyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-alanyl-L-valyl-L-arginyl-L-leucyl-L-phenylalanyl-L-isoleucyl-L-.alpha.-glutamyl-L-tryptophyl-L-leucyl-L-lysyl-L-asparaginylglycylglycyl-L-prolyl-L-seryl-L-serylglycyl-L-alanyl-L-prolyl-L-prolyl-L-prolyl-L-seryl-L-lysyl-L-lysyl-L-lysyl-L-lysyl-L-lysyl- (9CI) (CA INDEX NAME)
CI MAN
SQL 45

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSK KKKKK
========== ========== ========== ========
HITS AT: 1-39

REFERENCE 1: 134:110470

L4 ANSWER 9 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **309729-78-0** REGISTRY
CN Exendin 4 (Heloderma suspectum), 39a-[N6-[21-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)-1,10,19-trioxo-3,6,12,15-tetraoxa-9,18-diazaheneicos-1-yl]-L-lysinamide]-, pentakis(trifluoroacetate) (salt) (9CI) (CA INDEX NAME)
OTHER NAMES:

```
CN    34: PN: WO0069911 PAGE: 66 claimed sequence
SQL   40

SEQ       1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSK
            ========== ========== ========== =========
HITS AT:    1-39

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**

SEQ       1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSK
            ========== ========== ========== =========
HITS AT:    1-39

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**

SEQ       1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSK
            ========== ========== ========== =========
HITS AT:    1-39

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**

REFERENCE    1:   134:13338

L4    ANSWER 10 OF 29  REGISTRY  COPYRIGHT 2003 ACS
RN    309729-73-5  REGISTRY
CN    Exendin 4 (Heloderma suspectum), 39a-[N6-[21-(2,5-dihydro-2,5-dioxo-
      1H-pyrrol-1-yl)-1,10,19-trioxo-3,6,12,15-tetraoxa-9,18-diazaheneicos-
      1-yl]-L-lysinamide]- (9CI)  (CA INDEX NAME)
CI    COM, MAN
SQL   40

SEQ       1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSK
            ========== ========== ========== =========
HITS AT:    1-39

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**

REFERENCE    1:   134:13338

L4    ANSWER 11 OF 29  REGISTRY  COPYRIGHT 2003 ACS
RN    309728-25-4  REGISTRY
CN    L-Lysinamide, L-histidylglycyl-L-.alpha.-glutamylglycyl-L-threonyl-L-
      phenylalanyl-L-threonyl-L-seryl-L-.alpha.-aspartyl-L-leucyl-L-seryl-
      L-lysyl-L-glutaminyl-L-methionyl-L-.alpha.-glutamyl-L-.alpha.-
      glutamyl-L-.alpha.-glutamyl-L-alanyl-L-valyl-L-arginyl-L-leucyl-L-
      phenylalanyl-L-isoleucyl-L-.alpha.-glutamyl-L-tryptophyl-L-leucyl-L-
      lysyl-L-asparaginylglycylglycyl-L-prolyl-L-seryl-L-serylglycyl-L-
      alanyl-L-prolyl-L-prolyl-L-prolyl-L-seryl- (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN    33: PN: WO0069911 PAGE: 63 claimed sequence
CI    MAN
SQL   40

SEQ       1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSK
            ========== ========== ========== =========
HITS AT:    1-39

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
```

REFERENCE 1: 134:13338

L4 ANSWER 12 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **309257-15-6** REGISTRY
CN 192: PN: WO0069900 SEQID: 371 unclaimed protein (9CI) (CA INDEX NAME)
CI MAN
SQL 40

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSK
========== ========== ========== =========
HITS AT: 1-39

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 134:21425

L4 ANSWER 13 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **308815-99-8** REGISTRY
CN L-Lysine, L-histidylglycyl-L-.alpha.-glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L-.alpha.-aspartyl-L-leucyl-L-seryl-L-lysyl-L-glutaminyl-L-methionyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-alanyl-L-valyl-L-arginyl-L-leucyl-L-phenylalanyl-L-isoleucyl-L-.alpha.-glutamyl-L-tryptophyl-L-leucyl-L-lysyl-L-asparaginylglycylglycyl-L-prolyl-L-seryl-L-serylglycyl-L-alanyl-L-prolyl-L-prolyl-L-prolyl-L-seryl- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 18: PN: WO0069911 SEQID: 18 claimed protein
CI MAN
SQL 40

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSK
========== ========== ========== =========
HITS AT: 1-39

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 134:13338

L4 ANSWER 14 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **308245-46-7** REGISTRY
CN Exendin 4 (Heloderma suspectum), 39a-[N6-[15-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)-1,7,13-trioxo-3,9-dioxa-6,12-diazapentadec-1-yl]-L-lysinamide]-, pentakis(trifluoroacetate) (salt) (9CI) (CA INDEX NAME)
SQL 40

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSK
========== ========== ========== =========
HITS AT: 1-39

RELATED SEQUENCES AVAILABLE WITH SEQLINK

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSK
========== ========== ========== =========
HITS AT: 1-39

```
**RELATED SEQUENCES AVAILABLE WITH SEQLINK**

SEQ       1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSK
            ========== ========== ========== =========
HITS AT:    1-39

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**

REFERENCE    1:  134:21425

L4   ANSWER 15 OF 29  REGISTRY  COPYRIGHT 2003 ACS
RN   308245-14-9   REGISTRY
CN   Exendin 4 (Heloderma suspectum), 39a-[N6-[3-(2,5-dihydro-2,5-dioxo-
     1H-pyrrol-1-yl)-1-oxopropyl]-L-lysinamide]-,
     pentakis(trifluoroacetate) (salt) (9CI)  (CA INDEX NAME)
SQL  40

SEQ       1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSK
            ========== ========== ========== =========
HITS AT:    1-39

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**

SEQ       1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSK
            ========== ========== ========== =========
HITS AT:    1-39

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**

SEQ       1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSK
            ========== ========== ========== =========
HITS AT:    1-39

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**

REFERENCE    1:  134:21425

L4   ANSWER 16 OF 29  REGISTRY  COPYRIGHT 2003 ACS
RN   308244-92-0   REGISTRY
CN   Exendin 4 (Heloderma suspectum), 39a-[N6-[3-(2,5-dihydro-2,5-dioxo-
     1H-pyrrol-1-yl)-1-oxopropyl]-L-lysinamide]- (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   32: PN: WO0069911 PAGE: 62 claimed sequence
CI   COM, MAN
SQL  40

SEQ       1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSK
            ========== ========== ========== =========
HITS AT:    1-39

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**

REFERENCE    1:  134:13338

L4   ANSWER 17 OF 29  REGISTRY  COPYRIGHT 2003 ACS
RN   305818-90-0   REGISTRY
CN   Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-, 27-ether
     with L-histidylglycyl-L-.alpha.-glutamylglycyl-L-threonyl-L-
```

phenylalanyl-L-threonyl-L-seryl-L-.alpha.-aspartyl-L-leucyl-L-seryl-L-lysyl-L-glutaminyl-L-methionyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-alanyl-L-valyl-L-arginyl-L-leucyl-L-phenylalanyl-L-isoleucyl-L-.alpha.-glutamyl-L-tryptophyl-L-leucyl-N6-(2-hydroxyethyl)-L-lysyl-L-asparaginylglycylglycyl-L-prolyl-L-seryl-L-serylglycyl-L-alanyl-L-prolyl-L-prolyl-L-prolyl-L-serinamide (9CI) (CA INDEX NAME)
CI PMS, MAN
SQL 39

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPS
========== ========== ========== =========
HITS AT: 1-39

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 133:359242

L4 ANSWER 18 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **305815-30-9** REGISTRY
CN L-Serinamide, N-ethyl-L-histidylglycyl-L-.alpha.-glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L-.alpha.-aspartyl-L-leucyl-L-seryl-L-lysyl-L-glutaminyl-L-methionyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-alanyl-L-valyl-L-arginyl-L-leucyl-L-phenylalanyl-L-isoleucyl-L-.alpha.-glutamyl-L-tryptophyl-L-leucyl-L-lysyl-L-asparaginylglycylglycyl-L-prolyl-L-seryl-L-serylglycyl-L-alanyl-L-prolyl-L-prolyl-L-prolyl- (9CI) (CA INDEX NAME)
CI MAN
SQL 39

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPS
========== ========== ========== =========
HITS AT: 1-39

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 133:359242

L4 ANSWER 19 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **305815-28-5** REGISTRY
CN L-Serinamide, N-acetyl-L-histidylglycyl-L-.alpha.-glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L-.alpha.-aspartyl-L-leucyl-L-seryl-L-lysyl-L-glutaminyl-L-methionyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-alanyl-L-valyl-L-arginyl-L-leucyl-L-phenylalanyl-L-isoleucyl-L-.alpha.-glutamyl-L-tryptophyl-L-leucyl-L-lysyl-L-asparaginylglycylglycyl-L-prolyl-L-seryl-L-serylglycyl-L-alanyl-L-prolyl-L-prolyl-L-prolyl- (9CI) (CA INDEX NAME)
CI MAN
SQL 39

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPS
========== ========== ========== =========
HITS AT: 1-39

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 133:359242

L4 ANSWER 20 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **305814-59-9** REGISTRY
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-, 12-ether with L-histidylglycyl-L-.alpha.-glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L-.alpha.-aspartyl-L-leucyl-L-seryl-N6-(2-hydroxyethyl)-L-lysyl-L-glutaminyl-L-methionyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-alanyl-L-valyl-L-arginyl-L-leucyl-L-phenylalanyl-L-isoleucyl-L-.alpha.-glutamyl-L-tryptophyl-L-leucyl-L-lysyl-L-asparaginylglycylglycyl-L-prolyl-L-seryl-L-serylglycyl-L-alanyl-L-prolyl-L-prolyl-L-prolyl-L-serinamide (9CI) (CA INDEX NAME)
CI PMS, MAN
SQL 39

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPS
========== ========== ========== =========
HITS AT: 1-39

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 133:359242

L4 ANSWER 21 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **211430-73-8** REGISTRY
CN Exendin ENTP (Heloderma horridum) (9CI) (CA INDEX NAME)
CI MAN
SQL 64

SEQ 1 MPVESGLSSE DSASSESFAS KIKRHGEGTF TSDLSKQMEE EAVRLFIEWL
====== ========== ==========
51 KNGGPSSGAP PPSG
========== ===
HITS AT: 25-63

REFERENCE 1: 129:185369

L4 ANSWER 22 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **211430-62-5** REGISTRY
CN Exendin 4 (Heloderma suspectum), 39a-glycine- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 48-87-Exendin ENTP (Heloderma horridum)
CI MAN
SQL 40

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPSG
========== ========== ========== =========
HITS AT: 1-39

REFERENCE 1: 129:185369

L4 ANSWER 23 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **210829-59-7** REGISTRY
CN Exendin 4 (Heloderma suspectum), 36-[(4R)-4-thiazolidinecarboxylic acid]-37-[(4R)-4-thiazolidinecarboxylic acid]-38-[(4R)-4-thiazolidinecarboxylic acid]- (9CI) (CA INDEX NAME)
OTHER NAMES:

CN 22: PN: WO0073331 FIGURE: 1 claimed sequence
CI MAN
SQL 39

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPS
========== ========== ========== =========
HITS AT: 1-39

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 134:37033

REFERENCE 2: 129:149256

L4 ANSWER 24 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **210829-56-4** REGISTRY
CN L-Serinamide, L-histidylglycyl-L-.alpha.-glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L-.alpha.-aspartyl-L-leucyl-L-seryl-L-lysyl-L-glutaminyl-L-methionyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-alanyl-L-valyl-L-arginyl-L-leucyl-L-phenylalanyl-L-isoleucyl-L-.alpha.-glutamyl-L-tryptophyl-L-leucyl-L-lysyl-L-asparaginylglycylglycyl-(4R)-4-thiazolidinecarbonyl-L-seryl-L-serylglycyl-L-alanyl-(4R)-4-thiazolidinecarbonyl-(4R)-4-thiazolidinecarbonyl-(4R)-4-thiazolidinecarbonyl- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 21: PN: WO0073331 FIGURE: 1 claimed sequence
CI MAN
SQL 39

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPS
========== ========== ========== =========
HITS AT: 1-39

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 134:37033

REFERENCE 2: 129:149256

L4 ANSWER 25 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **203743-40-2** REGISTRY
CN Exendin 4 (Heloderma suspectum), 39-L-serine- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 12: PN: WO0069911 SEQID: 12 claimed protein
CN 170: PN: WO0069900 SEQID: 349 unclaimed protein
CN 1: PN: WO0009666 SEQID: 9 unclaimed protein
CN 2: PN: WO0151078 SEQID: 2 unclaimed protein
CN 48-86-Exendin ENTP (Heloderma horridum)
CN 4: PN: US6284725 SEQID: 9 unclaimed protein
CN 4: PN: WO0066138 PAGE: 13 unclaimed protein
CN 4: PN: WO0066142 TABLE: 1 unclaimed protein
CN 4: PN: WO0123420 PAGE: 6 unclaimed protein
CN 8: PN: WO0077039 TABLE: 1 unclaimed protein
CI MAN
SQL 39

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPS

========== ========== ========== =========
HITS AT: 1-39

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 135:205920

REFERENCE 2: 135:132445

REFERENCE 3: 134:290749

REFERENCE 4: 134:51920

REFERENCE 5: 134:37033

REFERENCE 6: 134:21425

REFERENCE 7: 134:13338

REFERENCE 8: 133:345167

REFERENCE 9: 133:345166

REFERENCE 10: 132:175839

L4 ANSWER 26 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **203743-30-0** REGISTRY
CN Exendin 4 (Heloderma suspectum), 36-(4-thiazolidinecarboxylic acid)-37-(4-thiazolidinecarboxylic acid)-38-(4-thiazolidinecarboxylic acid)- (9CI) (CA INDEX NAME)
CI MAN
SQL 39

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPS
========== ========== ========== =========
HITS AT: 1-39

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 128:192936

L4 ANSWER 27 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **203743-28-6** REGISTRY
CN L-Serinamide, L-histidylglycyl-L-.alpha.-glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L-.alpha.-aspartyl-L-leucyl-L-seryl-L-lysyl-L-glutaminyl-L-methionyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-alanyl-L-valyl-L-arginyl-L-leucyl-L-phenylalanyl-L-isoleucyl-L-.alpha.-glutamyl-L-tryptophyl-L-leucyl-L-lysyl-L-asparaginylglycylglycyl-4-thiazolidinecarbonyl-L-seryl-L-serylglycyl-L-alanyl-4-thiazolidinecarbonyl-4-thiazolidinecarbonyl-4-thiazolidinecarbonyl- (9CI) (CA INDEX NAME)
CI MAN
SQL 39

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPS
========== ========== ========== =========
HITS AT: 1-39

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 128:192936

L4 ANSWER 28 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **188265-76-1** REGISTRY
CN Exendin 4, pro- (Heloderma suspectum) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Exendin 4 (Heloderma suspectum precursor)
CN Exendin ENTP (Heloderma horridum pro-)
CI MAN
SQL 87

SEQ 1 MKIILWLCVF GLFLATLFPI SWQMPVESGL SSEDSASSES FASKIKRHGE
===
51 GTFTSDLSKQ MEEEAVRLFI EWLKNGGPSS GAPPPSG
========== ========== ========== ======
HITS AT: 48-86

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 137:346599

REFERENCE 2: 129:185369

REFERENCE 3: 129:78077

REFERENCE 4: 126:223096

L4 ANSWER 29 OF 29 REGISTRY COPYRIGHT 2003 ACS
RN **141758-74-9** REGISTRY
CN Exendin 4 (Heloderma suspectum) (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Exendin 3 (Heloderma horridum), 2-glycine-3-L-glutamic acid-
OTHER NAMES:
CN 12: PN: WO0041546 FIGURE: 2 claimed protein
CN 2: PN: WO0066629 FIGURE: 2 unclaimed sequence
CN 3: PN: WO0041548 PAGE: 65 unclaimed protein
CN AC 2993
CN AC 2993A
CN Exenatide
CN Exendin-4 (Heloderma suspectum)
CN L-Serinamide, L-histidylglycyl-L-.alpha.-glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L-.alpha.-aspartyl-L-leucyl-L-seryl-L-lysyl-L-glutaminyl-L-methionyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-alanyl-L-valyl-L-arginyl-L-leucyl-L-phenylalanyl-L-isoleucyl-L-.alpha.-glutamyl-L-tryptophyl-L-leucyl-L-lysyl-L-asparaginylglycylglycyl-L-prolyl-L-seryl-L-serylglycyl-L-alanyl-L-prolyl-L-prolyl-L-prolyl-
CI MAN
SQL 39

SEQ 1 HGEGTFTSDL SKQMEEEAVR LFIEWLKNGG PSSGAPPPS
========== ========== ========== =========
HITS AT: 1-39

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 138:14048

REFERENCE 2: 137:311200

REFERENCE 3: 137:311199

REFERENCE 4: 137:247879

REFERENCE 5: 137:109267

REFERENCE 6: 137:88643

REFERENCE 7: 136:401651

REFERENCE 8: 135:376777

REFERENCE 9: 134:37033

REFERENCE 10: 133:359242

FILE 'HOME' ENTERED AT 10:33:19 ON 14 FEB 2003

Jiang, D.
09/756,690
Seq. ID 2

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: February 13, 2003, 16:59:33 ; Search time 35 Seconds
(without alignments)
148.479 Million cell updates/sec

Title: US-09-756-690A-2
Perfect score: 209
Sequence: 1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 908470 seqs, 133250620 residues

Total number of hits satisfying chosen parameters: 908470

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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2: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA1981.DAT:*
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5: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA1984.DAT:*
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18: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA1997.DAT:*
19: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA1998.DAT:*
20: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA1999.DAT:*
21: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA2000.DAT:*
22: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA2001.DAT:*
23: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA2002.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	209	100.0	39	16	AAR80546	Heloderma suspectu
2	209	100.0	39	19	AAW61770	Exendin-4, for use
3	209	100.0	39	19	AAW47609	Gila monster exend
4	209	100.0	39	20	AAY31502	Exendin-4 peptide
5	209	100.0	39	20	AAY03718	Amino acid sequenc
6	209	100.0	39	21	AAB11282	H. suspectum exend
7	209	100.0	39	21	AAB11305	exendin agonist pe
8	209	100.0	39	21	AAB11306	exendin agonist pe
9	209	100.0	39	21	AAB11307	exendin agonist pe
10	209	100.0	39	21	AAB11308	exendin agonist pe
11	209	100.0	39	21	AAB52840	Extendin-4 peptide
12	209	100.0	39	21	AAB52841	Extendin-4 peptide
13	209	100.0	39	21	AAB52857	Extendin-4 peptide
14	209	100.0	39	21	AAB52858	Extendin-4 peptide
15	209	100.0	39	21	AAB52872	Gila monster exten
16	209	100.0	39	21	AAY94011	Amino acid sequenc
17	209	100.0	39	21	AAY78957	Extendin-4 (1-39)
18	209	100.0	39	22	AAU07380	Glucagon-like pept
19	209	100.0	39	22	AAE08346	Heloderma suspectu
20	209	100.0	39	22	AAG70462	Exendin-4. Uniden
21	209	100.0	39	22	AAB91175	Pancreatic hormone
22	209	100.0	39	22	AAB91178	Pancreatic hormone
23	209	100.0	39	22	AAB91191	Pancreatic hormone
24	209	100.0	39	22	AAB69971	Exendin-4(1-39).
25	209	100.0	39	22	AAB60254	Gila monster venom
26	209	100.0	39	22	AAB64182	Gila monster exend
27	209	100.0	39	22	AAB48801	Exendin-4, SEQ ID
28	209	100.0	39	22	AAB36421	Gila monster venom
29	209	100.0	39	22	AAB36434	Gila monster venom
30	209	100.0	39	22	AAB85927	Gila monster venom
31	209	100.0	39	23	ABB83059	Glucagon like pept
32	209	100.0	39	23	AAE14427	Gila monster exend
33	209	100.0	39	23	ABB07151	Gila monster venom
34	209	100.0	40	22	AAB91197	Pancreatic hormone
35	209	100.0	40	22	AAB91198	Pancreatic hormone
36	209	100.0	40	22	AAB48807	Exendin-derived in
37	209	100.0	40	22	AAB48822	Exendin-4(1-39)Lys
38	209	100.0	42	21	AAB52859	Extendin-4 peptide
39	209	100.0	45	22	AAB69968	Exendin-4(1-39)-(L
40	209	100.0	47	22	AAB69959	Lys40(palmitoyl)ex
41	209	100.0	87	19	AAW70288	Heloderma suspectu
42	208	99.5	39	21	AAB11299	exendin agonist pe
43	208	99.5	39	21	AAY94029	Amino acid sequenc
44	208	99.5	39	22	AAE08369	Exendin agonist pe
45	206	98.6	39	21	AAB11284	exendin agonist pe

ALIGNMENTS

RESULT 1
AAR80546
ID AAR80546 standard; peptide; 39 AA.
XX
AC AAR80546;
XX
DT 27-FEB-1996 (first entry)
XX
DE Heloderma suspectum exendin-4.
XX
KW Exendin-4; diabetes mellitus; hyperglycaemia; insulinotropic peptide.
XX
OS Heloderma suspectum.
XX
PN US5424286-A.
XX
PD 13-JUN-1995.
XX
PF 24-MAY-1993; 93US-0066480.
XX
PR 24-MAY-1993; 93US-0066480.
XX
PA (ENGJ/) ENG J.
XX
PI Eng J;
XX
DR WPI; 1995-262627/34.
XX
PT Stimulating/inhibiting insulin release with exendin polypeptide(s) -
PT for treating diabetes mellitus and preventing hyperglycaemia.
XX
PS Claim 6; Columns 13-14; 17pp; English.
XX

```
CC   AAR80546 is Heloderma suspectum exendin-4. It is an
CC   insulinotropic peptide, and can therefore be used in the treatment of
CC   diabetes mellitus (types I or II), and for the prevention of
CC   hyperglycaemia. It normalises hyperglycaemia through glucose-dependent
CC   and insulin-(in)dependent mechanisms.
XX
SQ   Sequence   39 AA;

  Query Match             100.0%;  Score 209;  DB 16;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 2.3e-19;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 2
AAW61770
ID   AAW61770 standard; peptide; 39 AA.
XX
AC   AAW61770;
XX
DT   29-MAR-1999  (first entry)
XX
DE   Exendin-4, for use in treating disorders related to food intake.
XX
KW   Exendin; obesity; type II diabetes; eating disorders; cardiac disease;
KW   insulin resistance syndrome; elevated plasma glucose level; agonist.
XX
OS   Heloderma suspectum.
XX
PN   WO9830231-A1.
XX
PD   16-JUL-1998.
XX
PF   07-JAN-1998;   98WO-US00449.
XX
PR   14-NOV-1997;   97US-0066029.
PR   07-JAN-1997;   97US-0034905.
PR   08-AUG-1997;   97US-0055404.
PR   14-NOV-1997;   97US-0065442.
XX
PA   (AMYL-) AMYLIN PHARM INC.
XX
PI   Beeley NRA,  Bhavsar S,  Prickett KS;
XX
DR   WPI; 1998-398796/34.
XX
PT   Reducing food intake by administering exendins or their
PT   analogues - for treatment of e.g. obesity, type II diabetes,
PT   eating disorders and insulin resistance
XX
PS   Claims 17, 25; Page 8; 214pp; English.
XX
CC   The invention relates to a new method for treating disorders that
CC   are alleviated by reducing food intake, in particular obesity, type
CC   II diabetes, eating disorders, insulin resistance syndrome, elevated
CC   plasma glucose levels, or the risk of cardiac disease. The method
CC   comprises administering an exendin or an exendin agonist. The treatment
CC   reduces appetite and lowers plasma lipid levels. It inhibits food
CC   consumption as effectively as amylin or cholecystokinin but has a much
CC   longer-lasting action (still effective after 6 hours in a mouse model).
CC   The present sequence is that of exendin-4 which is one of the preferred
CC   compounds for use in the method.
XX
SQ   Sequence   39 AA;

  Query Match             100.0%;  Score 209;  DB 19;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 2.3e-19;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 3
AAW47609
ID   AAW47609 standard; peptide; 39 AA.
XX
AC   AAW47609;
XX
DT   03-JUL-1998  (first entry)
XX
DE   Gila monster exendin-4.
XX
KW   Exendin agonist; gastric motility; gastric emptying; treatment;
KW   spasm; postprandial dumping syndrome; postprandial hyperglycaemia;
KW   type 1 diabetes; impaired glucose tolerance; toxin ingestion;
KW   obesity; Gila monster venom; exendin-4.
XX
OS   Heloderma suspectum.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   39
FT                   /note= "amidated"
XX
PN   WO9805351-A1.
XX
PD   12-FEB-1998.
XX
PF   08-AUG-1997;   97WO-US14199.
XX
PR   08-AUG-1996;   96US-0694954.
XX
PA   (AMYL-) AMYLIN PHARM INC.
XX
PI   Beeley NRA,  Gedulin B,  Prickett KS,  Young AA;
XX
DR   WPI; 1998-145351/13.
XX
PT   Regulating gastrointestinal motility using exendins or their
PT   agonists - for treating spasm, diabetic postprandial hyperglycaemia,
PT   impaired glucose tolerance etc., also in diagnostic investigations
XX
PS   Claims 20 and 21; Fig 1; 70pp; English.
XX
CC   AAW47549 describes a generic exendin agonist, provided that it does
CC   have the formula of either exendin-3 (AAW47608) or exendin-4
CC   (AAW47609).
CC   Exendin agonists, which reduce gastric motility and delay gastric
CC   emptying, can be used to treat spasm (where associated with acute
CC   diverticulitis or disorders of the biliary tract or sphincter of
CC   Oddi), postprandial dumping syndrome and hyperglycaemia
CC   (particularly associated with type 2 diabetes), type 1 diabetes,
CC   impaired glucose tolerance, toxin ingestion (an exendin agonist is
CC   administered to prevent stomach contents passing into the
CC   intestines, then the stomach pumped) and obesity. They can also be
CC   administered to subjects undergoing gastrointestinal diagnostic
CC   investigation, particularly radiological or by magnetic resonance
CC   imaging.
CC   Exendins, components of Gila monster venom, have some sequence
CC   similarity to glucagon-like peptides (GLP). They are GLP agonists
CC   and have been suggested (US5424286) for treatment of diabetes and
CC   prevention of hyperglycaemia.
XX
SQ   Sequence   39 AA;

  Query Match             100.0%;  Score 209;  DB 19;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 2.3e-19;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
```

```
RESULT 4
AAY31502
ID   AAY31502 standard; peptide; 39 AA.
XX
AC   AAY31502;
XX
DT   08-NOV-1999  (first entry)
XX
DE   Exendin-4 peptide sequence.
XX
KW   Exendin; agonist; GLP-1; glucagon-like peptide; toxic hypervolemia;
KW   diuresis; renal plasma flow; glomerular filtration rate; pre-eclampsia;
KW   eclampsia of pregnancy; cardiac contractility; renal failure; diuretic;
KW   congestive heart failure; nephrotic syndrome; pulmonary edema; cirrhosis;
KW   hypertension; urine flow.
XX
OS   Synthetic.
OS   Heloderma suspectum.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   39
FT                   /note= "C-terminal amide"
XX
PN   WO9940788-A1.
XX
PD   19-AUG-1999.
XX
PF   05-FEB-1999;   99WO-US02554.
XX
PR   13-FEB-1998;   98US-0075122.
XX
PA   (AMYL-) AMYLIN PHARM INC.
XX
PI   Beeley NRA,  Prickett K,  Vine W,  Young AA;
XX
DR   WPI; 1999-527332/44.
XX
PT   Increasing urine flow by administering peptides or peptide agonists
XX
PS   Claim 15; Page 7; 94pp; English.
XX
CC   The invention relates to new methods of increasing urine flow that
CC   comprises administering an exendin or exendin agonist, or a GLP-1
CC   (glucagon-like peptide) or GLP-1 agonist. The new methods using an
CC   exendin, exendin agonist, GLP-1 or GLP-1 agonist are useful for
CC   increasing urine flow, decreasing potassium concentration in urine,
CC   preventing or alleviating a disorder associated with toxic hypervolemia
CC   (renal failure, congestive heart failure, nephrotic syndrome, pulmonary
CC   edema, cirrhosis, or hypertension). They can also be used for inducing
CC   rapid diuresis, preparing an individual for surgical procedure,
CC   increasing renal plasma flow and glomerular filtration rate, treating
CC   pre-eclampsia or eclampsia of pregnancy, and increasing a condition/
CC   disorder that can be alleviated by increasing cardiac contractility
CC   (congestive heart failure, pulmonary edema, systemic edema or renal
CC   failure). Unlike prior art diuretics, the new methods increase urine
CC   excretion and sodium excretion without increasing potassium loss, and are
CC   fast acting. They have a prolonged duration of action, are inotropic,
CC   have a low toxicity, and are easily administered intravenously. The
CC   present sequence represents an exendin-4 peptide which can be used in
CC   the methods of the invention.
XX
SQ   Sequence   39 AA;

  Query Match             100.0%;  Score 209;  DB 20;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 2.3e-19;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
           |||||||||||||||||||||||||||||||||||||||
Db       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
```

```
RESULT 5
AAY03718
ID   AAY03718 standard; peptide; 39 AA.
XX
AC   AAY03718;
XX
DT   08-JUN-1999  (first entry)
XX
DE   Amino acid sequence of exendin-4.
XX
KW   Exendin; agonist; diabetes; disorder; plasma glucose; gastric;
KW   diagnostic; gastro-intestinal; radiological; generic.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   39
FT                   /note= "C-terminal amide"
XX
PN   WO9907404-A1.
XX
PD   18-FEB-1999.
XX
PF   06-AUG-1998;   98WO-US16387.
XX
PR   08-AUG-1997;   97US-0055404.
XX
PA   (AMYL-) AMYLIN PHARM INC.
XX
PI   Beeley NRA,  Prickett KS;
XX
DR   WPI; 1999-180403/15.
XX
PT   New exendin agonists  - useful in the treatment of Type I and II
PT   diabetes
XX
PS   Disclosure; Fig 3; 70pp; English.
XX
CC   The invention relates to exendin agonists which slow gastric emptying
CC   and lower plasma glucose levels. The peptides are of the formula
CC   Xaa1-Xaa2-
CC   Xaa3-Gly-Thr-Xaa4-Xaa5-Xaa6-Xaa7-Xaa8-Ser-Lys-Gln-Xaa9-Glu-Glu-- Glu-Ala-
CC   Val-Arg-Leu-Xaa10- Xaa11- Xaa12- Xaa13-Leu-Lys-Asn-Gly-Gly Xaa14-Ser-Ser-
CC   Gly-Ala- Xaa15-Xaa16- Xaa17- Xaa18-Z; wherein: Xaa1 is His, Arg or Tyr;
CC   Xaa2 is Ser, Gly, Ala, or Thr; Xaa3 is Asp or Glu; Xaa4 is Phe, Tyr, or
CC   napthylalanine; Xaa5 is Thr or Ser; Xaa6 is Ser or Thr; Xaa7 is Asp or
CC   Glu; Xaa8 is Leu, Ile, Val, pentylglycine, or Met; Xaa9 is Leu, Ile,
CC   pentylglycine, Val, or Met; Xaa10 is Phe, Tyr, or napthylalanine; Xaa11
CC   is Ile, Val, Leu, pentylglycine, tert-butylglycine, or Met; Xaa12 is Glu
CC   or Asp; Xaa13 is Trp, Phe, Tyr, or napthylalanine; Xaa14, Xaa15, Xaa16,
CC   and Xaa17 are independently Pro, homoproline, 3Hyp, 4Hyp, thioproline,
CC   N-alkylglycine, N-alkylpentylglycine, or N-alkylalanine; Xaa18 is Ser,
CC   Thr, or Tyr; and Z  is -OH or -NH2 with the proviso that the sequence is
CC   not the amino acid sequences shown in the present sequence and AAY03717.
CC   The specification claims for a second peptide of the above formula where
CC   Xaa1 is His, Arg, Tyr or 4-imidazopropionyl. The exendin agonists are
CC   used to treat Type I and II diabetes, disorders which would be benefited
CC   by agents which lower plasma glucose levels, and disorders which would be
CC   benefited by agents useful in delaying and/or slowing gastric emptying.
CC   Delayed gastric emptying is a useful diagnostic aid in gastro-intestinal
CC   radiological examinations.  The present sequence represents the amino
CC   acid sequence of exendin-4.
XX
SQ   Sequence   39 AA;

  Query Match             100.0%;  Score 209;  DB 20;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 2.3e-19;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
           |||||||||||||||||||||||||||||||||||||||
Db       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
```

```
RESULT 6
AAB11282
ID   AAB11282 standard; Peptide; 39 AA.
XX
AC   AAB11282;
XX
DT   20-FEB-2001  (first entry)
XX
DE   H. suspectum exendin 4 peptide SEQ ID NO 2.
XX
KW   Exendin; agonist; treatment; antidiabetic; insulin sensitivity; diabetes;
KW   plasma glucose; gastric emptying; food intake.
XX
OS   Heloderma suspectum.
XX
PN   WO200041546-A2.
XX
PD   20-JUL-2000.
XX
PF   10-JAN-2000; 2000US-0116380.
XX
PR   14-JAN-1999;  99US-0116380.
XX
PA   (AMYL-) AMYLIN PHARM INC.
XX
PI   Young A,  L'Italien JJ,  Kolterman O;
XX
DR   WPI; 2000-514584/46.
XX
PT   New formulations comprising an exendin or exendin agonist peptide used
PT   for increasing the sensitivity of a subject to insulin to treat
PT   diabetes -
XX
PS   Example 2; Figure 2; 281pp; English.
XX
CC   This invention describes a novel formulation (I) comprising an exendin or
CC   exendin agonist peptide, a buffer and an iso-osmolality modifier which
CC   has a pH of 3-7. The products of the invention have antidiabetic
CC   activity. The exendin or exendin agonist is used to increase the
CC   sensitivity of a subject to insulin to treat diabetes and disorders which
CC   would benefit from agents which lower plasma glucose levels and disorders
CC   which would benefit from agents that delay and/or slow gastric emptying
CC   or reducing food intake.
XX
SQ   Sequence   39 AA;

  Query Match             100.0%;  Score 209;  DB 21;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 2.3e-19;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
           |||||||||||||||||||||||||||||||||||||||
Db       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 7
AAB11305
ID   AAB11305 standard; Peptide; 39 AA.
XX
AC   AAB11305;
XX
DT   20-FEB-2001  (first entry)
XX
DE   exendin agonist peptide SEQ ID NO 31.
XX
KW   Exendin; agonist; treatment; antidiabetic; insulin sensitivity; diabetes;
KW   plasma glucose; gastric emptying; food intake.
XX
OS   Synthetic.
XX
PN   WO200041546-A2.
XX
PD   20-JUL-2000.
XX
PF   10-JAN-2000; 2000US-0116380.
XX
PR   14-JAN-1999;  99US-0116380.
XX
PA   (AMYL-) AMYLIN PHARM INC.
XX
PI   Young A,  L'Italien JJ,  Kolterman O;
XX
DR   WPI; 2000-514584/46.
XX
PT   New formulations comprising an exendin or exendin agonist peptide used
PT   for increasing the sensitivity of a subject to insulin to treat
PT   diabetes -
XX
PS   Example 36; Figure 15; 281pp; English.
XX
CC   This invention describes a novel formulation (I) comprising an exendin or
CC   exendin agonist peptide, a buffer and an iso-osmolality modifier which
CC   has a pH of 3-7. The products of the invention have antidiabetic
CC   activity. The exendin or exendin agonist is used to increase the
CC   sensitivity of a subject to insulin to treat diabetes and disorders which
CC   would benefit from agents which lower plasma glucose levels and disorders
CC   which would benefit from agents that delay and/or slow gastric emptying
CC   or reducing food intake.
XX
SQ   Sequence   39 AA;

  Query Match             100.0%;  Score 209;  DB 21;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 2.3e-19;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
           |||||||||||||||||||||||||||||||||||||||
Db       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 8
AAB11306
ID   AAB11306 standard; Peptide; 39 AA.
XX
AC   AAB11306;
XX
DT   20-FEB-2001  (first entry)
XX
DE   exendin agonist peptide SEQ ID NO 32.
XX
KW   Exendin; agonist; treatment; antidiabetic; insulin sensitivity; diabetes;
KW   plasma glucose; gastric emptying; food intake.
XX
OS   Synthetic.
XX
PN   WO200041546-A2.
XX
PD   20-JUL-2000.
XX
PF   10-JAN-2000; 2000US-0116380.
XX
PR   14-JAN-1999;  99US-0116380.
XX
PA   (AMYL-) AMYLIN PHARM INC.
XX
PI   Young A,  L'Italien JJ,  Kolterman O;
XX
DR   WPI; 2000-514584/46.
XX
PT   New formulations comprising an exendin or exendin agonist peptide used
PT   for increasing the sensitivity of a subject to insulin to treat
PT   diabetes -
XX
PS   Example 37; Figure 15; 281pp; English.
```

```
XX
CC   This invention describes a novel formulation (I) comprising an exendin or
CC   exendin agonist peptide, a buffer and an iso-osmolality modifier which
CC   has a pH of 3-7. The products of the invention have antidiabetic
CC   activity. The exendin or exendin agonist is used to increase the
CC   sensitivity of a subject to insulin to treat diabetes and disorders which
CC   would benefit from agents which lower plasma glucose levels and disorders
CC   which would benefit from agents that delay and/or slow gastric emptying
CC   or reducing food intake.
XX
SQ   Sequence   39 AA;

  Query Match             100.0%;  Score 209;  DB 21;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 2.3e-19;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 9
AAB11307
ID   AAB11307 standard; Peptide; 39 AA.
XX
AC   AAB11307;
XX
DT   20-FEB-2001  (first entry)
XX
DE   exendin agonist peptide SEQ ID NO 33.
XX
KW   Exendin; agonist; treatment; antidiabetic; insulin sensitivity; diabetes;
KW   plasma glucose; gastric emptying; food intake.
XX
OS   Synthetic.
XX
PN   WO200041546-A2.
XX
PD   20-JUL-2000.
XX
PF   10-JAN-2000; 2000US-0116380.
XX
PR   14-JAN-1999;   99US-0116380.
XX
PA   (AMYL-) AMYLIN PHARM INC.
XX
PI   Young A,  L'Italien JJ,  Kolterman O;
XX
DR   WPI; 2000-514584/46.
XX
PT   New formulations comprising an exendin or exendin agonist peptide used
PT   for increasing the sensitivity of a subject to insulin to treat
PT   diabetes -
XX
PS   Example 38; Figure 15; 281pp; English.
XX
CC   This invention describes a novel formulation (I) comprising an exendin or
CC   exendin agonist peptide, a buffer and an iso-osmolality modifier which
CC   has a pH of 3-7. The products of the invention have antidiabetic
CC   activity. The exendin or exendin agonist is used to increase the
CC   sensitivity of a subject to insulin to treat diabetes and disorders which
CC   would benefit from agents which lower plasma glucose levels and disorders
CC   which would benefit from agents that delay and/or slow gastric emptying
CC   or reducing food intake.
XX
SQ   Sequence   39 AA;

  Query Match             100.0%;  Score 209;  DB 21;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 2.3e-19;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 10
AAB11308
ID   AAB11308 standard; Peptide; 39 AA.
XX
AC   AAB11308;
XX
DT   20-FEB-2001  (first entry)
XX
DE   exendin agonist peptide SEQ ID NO 34.
XX
KW   Exendin; agonist; treatment; antidiabetic; insulin sensitivity; diabetes;
KW   plasma glucose; gastric emptying; food intake.
XX
OS   Synthetic.
XX
PN   WO200041546-A2.
XX
PD   20-JUL-2000.
XX
PF   10-JAN-2000; 2000US-0116380.
XX
PR   14-JAN-1999;   99US-0116380.
XX
PA   (AMYL-) AMYLIN PHARM INC.
XX
PI   Young A,  L'Italien JJ,  Kolterman O;
XX
DR   WPI; 2000-514584/46.
XX
PT   New formulations comprising an exendin or exendin agonist peptide used
PT   for increasing the sensitivity of a subject to insulin to treat
PT   diabetes -
XX
PS   Example 39; Figure 15; 281pp; English.
XX
CC   This invention describes a novel formulation (I) comprising an exendin or
CC   exendin agonist peptide, a buffer and an iso-osmolality modifier which
CC   has a pH of 3-7. The products of the invention have antidiabetic
CC   activity. The exendin or exendin agonist is used to increase the
CC   sensitivity of a subject to insulin to treat diabetes and disorders which
CC   would benefit from agents which lower plasma glucose levels and disorders
CC   which would benefit from agents that delay and/or slow gastric emptying
CC   or reducing food intake.
XX
SQ   Sequence   39 AA;

  Query Match             100.0%;  Score 209;  DB 21;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 2.3e-19;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 11
AAB52840
ID   AAB52840 standard; Peptide; 39 AA.
XX
AC   AAB52840;
XX
DT   28-FEB-2001  (first entry)
XX
DE   Extendin-4 peptide #7.
XX
KW   Extendin; agonist; diabetes; obesity; eating disorder;
KW   dyslipidaemia; insulin-resistance syndrome; food intake.
XX
OS   Heloderma sp.
XX
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PN WO200066629-A1.
XX
PD 09-NOV-2000.
XX
PF 28-APR-2000; 2000WO-US11814.
XX
PR 30-APR-1999; 99US-0132018.
XX
PA (AMYL-) AMYLIN PHARM INC.
XX
PI Young A, Prickett K;
XX
DR WPI; 2000-672834/65.
XX
PT Modified exendin or an exendin agonist linked to one or more
PT polyethylene glycol (PEG) polymers, modulate plasma glucose levels,
PT useful for treating disorders such as diabetes and obesity -
XX
PS Example 4; Page 71; 119pp; English.
XX
CC The present invention relates to extendins and their agonists which have
CC been modified with molecular weight increasing agents such as
CC polyethylene glycol (PEG). These can be used in the treatment of
CC diabetes, obesity, impaired glucose tolerance, postprandial dumping
CC syndrome, postprandial hyperglycaemia, eating disorders, insulin
CC resistance syndrome, dyslipidaemia and to suppress glucagon secretion.
XX
SQ Sequence 39 AA;

Query Match 100.0%; Score 209; DB 21; Length 39;
Best Local Similarity 100.0%; Pred. No. 2.3e-19;
Matches 39; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
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Db 1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39

RESULT 12
AAB52841
ID AAB52841 standard; Peptide; 39 AA.
XX
AC AAB52841;
XX
DT 28-FEB-2001 (first entry)
XX
DE Extendin-4 peptide #8.
XX
KW Extendin; agonist; diabetes; obesity; eating disorder;
KW dyslipidaemia; insulin-resistance syndrome; food intake.
XX
OS Heloderma sp.
XX
PN WO200066629-A1.
XX
PD 09-NOV-2000.
XX
PF 28-APR-2000; 2000WO-US11814.
XX
PR 30-APR-1999; 99US-0132018.
XX
PA (AMYL-) AMYLIN PHARM INC.
XX
PI Young A, Prickett K;
XX
DR WPI; 2000-672834/65.
XX
PT Modified exendin or an exendin agonist linked to one or more
PT polyethylene glycol (PEG) polymers, modulate plasma glucose levels,
PT useful for treating disorders such as diabetes and obesity -
XX
PS Example 4; Page 71; 119pp; English.
XX
CC The present invention relates to extendins and their agonists which have
CC been modified with molecular weight increasing agents such as
CC polyethylene glycol (PEG). These can be used in the treatment of
CC diabetes, obesity, impaired glucose tolerance, postprandial dumping
CC syndrome, postprandial hyperglycaemia, eating disorders, insulin
CC resistance syndrome, dyslipidaemia and to suppress glucagon secretion.
XX
SQ Sequence 39 AA;

Query Match 100.0%; Score 209; DB 21; Length 39;
Best Local Similarity 100.0%; Pred. No. 2.3e-19;
Matches 39; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
||||||||||||||||||||||||||||||||||||||||
Db 1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39

RESULT 13
AAB52857
ID AAB52857 standard; Peptide; 39 AA.
XX
AC AAB52857;
XX
DT 28-FEB-2001 (first entry)
XX
DE Extendin-4 peptide #24.
XX
KW Extendin; agonist; diabetes; obesity; eating disorder;
KW dyslipidaemia; insulin-resistance syndrome; food intake.
XX
OS Heloderma sp.
XX
PN WO200066629-A1.
XX
PD 09-NOV-2000.
XX
PF 28-APR-2000; 2000WO-US11814.
XX
PR 30-APR-1999; 99US-0132018.
XX
PA (AMYL-) AMYLIN PHARM INC.
XX
PI Young A, Prickett K;
XX
DR WPI; 2000-672834/65.
XX
PT Modified exendin or an exendin agonist linked to one or more
PT polyethylene glycol (PEG) polymers, modulate plasma glucose levels,
PT useful for treating disorders such as diabetes and obesity -
XX
PS Example 4; Page 73; 119pp; English.
XX
CC The present invention relates to extendins and their agonists which have
CC been modified with molecular weight increasing agents such as
CC polyethylene glycol (PEG). These can be used in the treatment of
CC diabetes, obesity, impaired glucose tolerance, postprandial dumping
CC syndrome, postprandial hyperglycaemia, eating disorders, insulin
CC resistance syndrome, dyslipidaemia and to suppress glucagon secretion.
XX
SQ Sequence 39 AA;

Query Match 100.0%; Score 209; DB 21; Length 39;
Best Local Similarity 100.0%; Pred. No. 2.3e-19;
Matches 39; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
||||||||||||||||||||||||||||||||||||||||
Db 1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39

RESULT 14
AAB52858

ID AAB52858 standard; Peptide; 39 AA.
XX
AC AAB52858;
XX
DT 28-FEB-2001 (first entry)
XX
DE Extendin-4 peptide #25.
XX
KW Extendin; agonist; diabetes; obesity; eating disorder;
KW dyslipidaemia; insulin-resistance syndrome; food intake.
XX
OS Heloderma sp.
XX
PN WO200066629-A1.
XX
PD 09-NOV-2000.
XX
PF 28-APR-2000; 2000WO-US11814.
XX
PR 30-APR-1999; 99US-0132018.
XX
PA (AMYL-) AMYLIN PHARM INC.
XX
PI Young A, Prickett K;
XX
DR WPI; 2000-672834/65.
XX
PT Modified exendin or an exendin agonist linked to one or more
PT polyethylene glycol (PEG) polymers, modulate plasma glucose levels,
PT useful for treating disorders such as diabetes and obesity -
XX
PS Example 4; Page 73; 119pp; English.
XX
CC The present invention relates to extendins and their agonists which have
CC been modified with molecular weight increasing agents such as
CC polyethylene glycol (PEG). These can be used in the treatment of
CC diabetes, obesity, impaired glucose tolerance, postprandial dumping
CC syndrome, postprandial hyperglycaemia, eating disorders, insulin
CC resistance syndrome, dyslipidaemia and to suppress glucagon secretion.
XX
SQ Sequence 39 AA;

Query Match 100.0%; Score 209; DB 21; Length 39;
Best Local Similarity 100.0%; Pred. No. 2.3e-19;
Matches 39; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
||||||||||||||||||||||||||||||||||||||||
Db 1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39

RESULT 15
AAB52872
ID AAB52872 standard; Peptide; 39 AA.
XX
AC AAB52872;
XX
DT 28-FEB-2001 (first entry)
XX
DE Gila monster extendin-4 protein.
XX
KW Extendin; agonist; diabetes; obesity; eating disorder;
KW dyslipidaemia; insulin-resistance syndrome; food intake.
XX
OS Heloderma suspectum.
XX
PN WO200066629-A1.
XX
PD 09-NOV-2000.
XX
PF 28-APR-2000; 2000WO-US11814.
XX
PR 30-APR-1999; 99US-0132018.
XX
PA (AMYL-) AMYLIN PHARM INC.
XX
PI Young A, Prickett K;
XX
DR WPI; 2000-672834/65.
XX
PT Modified exendin or an exendin agonist linked to one or more
PT polyethylene glycol (PEG) polymers, modulate plasma glucose levels,
PT useful for treating disorders such as diabetes and obesity -
XX
PS Example 2; Fig 2; 119pp; English.
XX
CC The present invention relates to extendins and their agonists which have
CC been modified with molecular weight increasing agents such as
CC polyethylene glycol (PEG). These can be used in the treatment of
CC diabetes, obesity, impaired glucose tolerance, postprandial dumping
CC syndrome, postprandial hyperglycaemia, eating disorders, insulin
CC resistance syndrome, dyslipidaemia and to suppress glucagon secretion.
XX
SQ Sequence 39 AA;

Query Match 100.0%; Score 209; DB 21; Length 39;
Best Local Similarity 100.0%; Pred. No. 2.3e-19;
Matches 39; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
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Db 1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39

Search completed: February 13, 2003, 17:10:47
Job time : 36 secs

GenCore version 5.1.3

OM protein - protein search, using sw model

Run on: February 13, 2003, 17:10:39 ; Search time 31 Seconds
(without alignments)
37.016 Million cell updates/sec

Title: US-09-756-690A-2
Perfect score: 209
Sequence: 1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 262574 seqs, 29422922 residues

Total number of hits satisfying chosen parameters: 262574

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	209	100.0	39	1	US-08-066-480-2	Sequence 2, Appli
2	209	100.0	39	4	US-09-302-596-9	Sequence 9, Appli
3	209	100.0	39	4	US-09-623-618B-12	Sequence 12, Appl
4	209	100.0	39	4	US-09-333-415-9	Sequence 9, Appli
5	209	100.0	39	4	US-09-303-016-9	Sequence 9, Appli
6	209	100.0	40	4	US-09-623-618B-18	Sequence 18, Appl
7	209	100.0	40	4	US-09-623-618B-31	Sequence 31, Appl
8	209	100.0	40	4	US-09-623-618B-32	Sequence 32, Appl
9	200	95.7	39	1	US-08-066-480-1	Sequence 1, Appli
10	200	95.7	39	4	US-09-302-596-7	Sequence 7, Appli
11	200	95.7	39	4	US-09-623-618B-11	Sequence 11, Appl
12	200	95.7	39	4	US-09-333-415-7	Sequence 7, Appli
13	200	95.7	39	4	US-09-303-016-7	Sequence 7, Appli
14	200	95.7	40	4	US-09-623-618B-19	Sequence 19, Appl
15	200	95.7	40	4	US-09-623-618B-33	Sequence 33, Appl
16	200	95.7	40	4	US-09-623-618B-34	Sequence 34, Appl
17	166	79.4	31	1	US-08-066-480-3	Sequence 3, Appli
18	166	79.4	32	4	US-09-623-618B-35	Sequence 35, Appl
19	164	78.5	31	1	US-08-066-480-5	Sequence 5, Appli
20	164	78.5	31	4	US-09-302-596-8	Sequence 8, Appli
21	164	78.5	31	4	US-09-333-415-8	Sequence 8, Appli
22	164	78.5	31	4	US-09-303-016-8	Sequence 8, Appli
23	160	76.6	31	4	US-09-623-618B-24	Sequence 24, Appl
24	159	76.1	31	1	US-08-066-480-4	Sequence 4, Appli
25	159	76.1	31	4	US-09-623-618B-14	Sequence 14, Appl
26	159	76.1	31	4	US-09-623-618B-23	Sequence 23, Appl
27	158	75.6	31	4	US-09-623-618B-15	Sequence 15, Appl
28	150.5	72.0	31	4	US-09-623-618B-13	Sequence 13, Appl
29	148.5	71.1	31	4	US-09-623-618B-20	Sequence 20, Appl
30	141.5	67.7	30	4	US-09-623-618B-21	Sequence 21, Appl
31	133	63.6	29	4	US-09-623-618B-22	Sequence 22, Appl
32	96.5	46.2	176	2	US-08-835-231-18	Sequence 18, Appl
33	96.5	46.2	176	4	US-09-108-661-18	Sequence 18, Appl
34	96	45.9	31	4	US-09-258-750-14	Sequence 14, Appl
35	96	45.9	31	4	US-09-258-750-17	Sequence 17, Appl
36	96	45.9	31	4	US-09-258-750-20	Sequence 20, Appl
37	96	45.9	31	4	US-09-398-111-14	Sequence 14, Appl
38	96	45.9	31	4	US-09-398-111-17	Sequence 17, Appl
39	96	45.9	31	4	US-09-398-111-20	Sequence 20, Appl
40	96	45.9	32	4	US-09-258-750-95	Sequence 95, Appl
41	96	45.9	32	4	US-09-258-750-96	Sequence 96, Appl
42	96	45.9	32	4	US-09-398-111-95	Sequence 95, Appl
43	96	45.9	32	4	US-09-398-111-96	Sequence 96, Appl
44	96	45.9	33	4	US-09-258-750-18	Sequence 18, Appl
45	96	45.9	33	4	US-09-258-750-22	Sequence 22, Appl

ALIGNMENTS

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RESULT 1
US-08-066-480-2
; Sequence 2, Application US/08066480
; Patent No. 5424286
;  GENERAL INFORMATION:
;    APPLICANT:  Eng, John
;    TITLE OF INVENTION:  Pharmaceutical Compositions And Use of
;    TITLE OF INVENTION:  Exendin-3 and Exendin-4 for Treatment of Diabetes Mellitus
;    NUMBER OF SEQUENCES:  7
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Allegretti & Witcoff, Ltd.
;      STREET:  10 S. Wacker Drive
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  USA
;      ZIP:  60606
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/066,480
;      FILING DATE:  24-MAR-1993
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  McDonnell, John J
;      REGISTRATION NUMBER:  26,949
;      REFERENCE/DOCKET NUMBER:  93,084
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312-715-1000
;      TELEFAX:  312-715-1234
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  39 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  1..39
;      OTHER INFORMATION:  /label= Exendin-4
US-08-066-480-2

  Query Match           100.0%;  Score 209;  DB 1;  Length 39;
  Best Local Similarity  100.0%;  Pred. No. 2.6e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
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RESULT 2
US-09-302-596-9
; Sequence 9, Application US/09302596
; Patent No. 6284725
; GENERAL INFORMATION:
;  APPLICANT: Coolidge, Thomas R.
;  APPLICANT:  Ehlers, Mario R.W.
;  TITLE OF INVENTION: Metabolic Intervention with GLP-1 to Improve the Function of
;  TITLE OF INVENTION:  Ischemic and Reperfused Tissue
;  FILE REFERENCE: P03660US1
;  CURRENT APPLICATION NUMBER: US/09/302,596
;  CURRENT FILING DATE:  1999-04-30
;  PRIOR APPLICATION NUMBER: 60/103,498
;  PRIOR FILING DATE: 1998-10-08
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 9
;   LENGTH: 39
;   TYPE: PRT
;   ORGANISM: Gila Monster venom
US-09-302-596-9

  Query Match             100.0%;  Score 209;  DB 4;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 2.6e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
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Db       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 3
US-09-623-618B-12
; Sequence 12, Application US/09623618B
; Patent No. 6329336
; GENERAL INFORMATION:
;  APPLICANT: Bridon, Dominique P.
;  APPLICANT:  L'Archeveque, Benoit
;  APPLICANT:  Ezrin, Alan M.
;  APPLICANT:  Holmes, Darren L.
;  APPLICANT:  Leblanc, Anouk
;  APPLICANT:  St. Pierre, Serge
;  TITLE OF INVENTION: LONG LASTING INSULINOTROPIC PEPTIDES
;  FILE REFERENCE: 500862001620
;  CURRENT APPLICATION NUMBER: US/09/623,618B
;  CURRENT FILING DATE:  2000-09-05
;  PRIOR APPLICATION NUMBER: PCT/US00/13563
;  PRIOR FILING DATE: 2000-05-17
;  PRIOR APPLICATION NUMBER: 60/159,783
;  PRIOR FILING DATE: 1999-10-15
;  PRIOR APPLICATION NUMBER: 60/134,406
;  PRIOR FILING DATE: 1999-05-17
;  NUMBER OF SEQ ID NOS: 35
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 12
;   LENGTH: 39
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Synthetic
;   OTHER INFORMATION: Peptide
US-09-623-618B-12

  Query Match             100.0%;  Score 209;  DB 4;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 2.6e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
           |||||||||||||||||||||||||||||||||||||||
Db       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 4
US-09-333-415-9
; Sequence 9, Application US/09333415
; Patent No. 6344180
; GENERAL INFORMATION:
;  APPLICANT:  Holst, Jens J.
;  APPLICANT:  Vilsboll, Tina
;  TITLE OF INVENTION:  GLP-1 as a Diagnostic Test to Determine Beta-Cell
;  TITLE OF INVENTION:  Function and the Presence of the Condition of IGT and
;  TITLE OF INVENTION:  Type-II Diabetes
;  FILE REFERENCE:  P03987US0
;  CURRENT APPLICATION NUMBER: US/09/333,415
;  CURRENT FILING DATE:  1999-06-15
;  NUMBER OF SEQ ID NOS:  13
;  SOFTWARE:  PatentIn Ver. 2.0
; SEQ ID NO 9
;   LENGTH: 39
;   TYPE: PRT
;   ORGANISM: Heloderma suspectum
US-09-333-415-9

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  Best Local Similarity   100.0%;  Pred. No. 2.6e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
           |||||||||||||||||||||||||||||||||||||||
Db       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 5
US-09-303-016-9
; Sequence 9, Application US/09303016
; Patent No. 6429197
; GENERAL INFORMATION:
;  APPLICANT:  Coolidge, Thomas R.
;  APPLICANT:  Ehlers, Mario R.W.
;  TITLE OF INVENTION:  Metabolic Intervention with GLP-1 or its Biologically
;  TITLE OF INVENTION:  Active Analogues to Improve the Function of the
;  TITLE OF INVENTION:  Ischemic and Reperfused Brain
;  FILE REFERENCE:  P03660US2
;  CURRENT APPLICATION NUMBER: US/09/303,016
;  CURRENT FILING DATE:  1999-04-30
;  PRIOR APPLICATION NUMBER:  60/103,498
;  PRIOR FILING DATE:  1998-10-08
;  NUMBER OF SEQ ID NOS:  13
;  SOFTWARE:  PatentIn Ver. 2.0
; SEQ ID NO 9
;   LENGTH: 39
;   TYPE: PRT
;   ORGANISM: Heloderma suspectum
US-09-303-016-9

  Query Match             100.0%;  Score 209;  DB 4;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 2.6e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
           |||||||||||||||||||||||||||||||||||||||
Db       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 6
US-09-623-618B-18
; Sequence 18, Application US/09623618B
; Patent No. 6329336
; GENERAL INFORMATION:
;  APPLICANT: Bridon, Dominique P.
;  APPLICANT:  L'Archeveque, Benoit
;  APPLICANT:  Ezrin, Alan M.
```

```
;  APPLICANT:  Holmes, Darren L.
;  APPLICANT:  Leblanc, Anouk
;  APPLICANT:  St. Pierre, Serge
;  TITLE OF INVENTION: LONG LASTING INSULINOTROPIC PEPTIDES
;  FILE REFERENCE: 500862001620
;  CURRENT APPLICATION NUMBER: US/09/623,618B
;  CURRENT FILING DATE:  2000-09-05
;  PRIOR APPLICATION NUMBER: PCT/US00/13563
;  PRIOR FILING DATE: 2000-05-17
;  PRIOR APPLICATION NUMBER: 60/159,783
;  PRIOR FILING DATE: 1999-10-15
;  PRIOR APPLICATION NUMBER: 60/134,406
;  PRIOR FILING DATE: 1999-05-17
;  NUMBER OF SEQ ID NOS: 35
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 18
;   LENGTH: 40
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Synthetic
;   OTHER INFORMATION: Peptide
US-09-623-618B-18

  Query Match             100.0%;  Score 209;  DB 4;  Length 40;
  Best Local Similarity   100.0%;  Pred. No. 2.7e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
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Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 7
US-09-623-618B-31
; Sequence 31, Application US/09623618B
; Patent No. 6329336
; GENERAL INFORMATION:
;  APPLICANT: Bridon, Dominique P.
;  APPLICANT:  L'Archeveque, Benoit
;  APPLICANT:  Ezrin, Alan M.
;  APPLICANT:  Holmes, Darren L.
;  APPLICANT:  Leblanc, Anouk
;  APPLICANT:  St. Pierre, Serge
;  TITLE OF INVENTION: LONG LASTING INSULINOTROPIC PEPTIDES
;  FILE REFERENCE: 500862001620
;  CURRENT APPLICATION NUMBER: US/09/623,618B
;  CURRENT FILING DATE:  2000-09-05
;  PRIOR APPLICATION NUMBER: PCT/US00/13563
;  PRIOR FILING DATE: 2000-05-17
;  PRIOR APPLICATION NUMBER: 60/159,783
;  PRIOR FILING DATE: 1999-10-15
;  PRIOR APPLICATION NUMBER: 60/134,406
;  PRIOR FILING DATE: 1999-05-17
;  NUMBER OF SEQ ID NOS: 35
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 31
;   LENGTH: 40
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Synthetic
;   OTHER INFORMATION: Peptide
;   NAME/KEY: MOD_RES
;   LOCATION: 40
;   OTHER INFORMATION: Xaa represents Lys(E-MPA)-NH2-5TFA and where "E" represents Epsil
US-09-623-618B-31

  Query Match             100.0%;  Score 209;  DB 4;  Length 40;
  Best Local Similarity   100.0%;  Pred. No. 2.7e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 8
US-09-623-618B-32
; Sequence 32, Application US/09623618B
; Patent No. 6329336
; GENERAL INFORMATION:
;  APPLICANT: Bridon, Dominique P.
;  APPLICANT:  L'Archeveque, Benoit
;  APPLICANT:  Ezrin, Alan M.
;  APPLICANT:  Holmes, Darren L.
;  APPLICANT:  Leblanc, Anouk
;  APPLICANT:  St. Pierre, Serge
;  TITLE OF INVENTION: LONG LASTING INSULINOTROPIC PEPTIDES
;  FILE REFERENCE: 500862001620
;  CURRENT APPLICATION NUMBER: US/09/623,618B
;  CURRENT FILING DATE:  2000-09-05
;  PRIOR APPLICATION NUMBER: PCT/US00/13563
;  PRIOR FILING DATE: 2000-05-17
;  PRIOR APPLICATION NUMBER: 60/159,783
;  PRIOR FILING DATE: 1999-10-15
;  PRIOR APPLICATION NUMBER: 60/134,406
;  PRIOR FILING DATE: 1999-05-17
;  NUMBER OF SEQ ID NOS: 35
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 32
;   LENGTH: 40
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Synthetic
;   OTHER INFORMATION: Peptide
;   NAME/KEY: MOD_RES
;   LOCATION: 40
;   OTHER INFORMATION: Xaa represents Lys(E-AEEA-AEEA-MPA)-NH2-5TFA and where "E" re
US-09-623-618B-32

  Query Match             100.0%;  Score 209;  DB 4;  Length 40;
  Best Local Similarity   100.0%;  Pred. No. 2.7e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 9
US-08-066-480-1
; Sequence 1, Application US/08066480
; Patent No. 5424286
;  GENERAL INFORMATION:
;    APPLICANT:  Eng, John
;    TITLE OF INVENTION:  Pharmaceutical Compositions And Use of
;    TITLE OF INVENTION:  Exendin-3 and Exendin-4 for Treatment of Diabetes Mellitus
;    NUMBER OF SEQUENCES:  7
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Allegretti & Witcoff, Ltd.
;      STREET:  10 S. Wacker Drive
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  USA
;      ZIP:  60606
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/066,480
;      FILING DATE:  24-MAR-1993
;      CLASSIFICATION:  514
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;    ATTORNEY/AGENT INFORMATION:
;      NAME:  McDonnell, John J
;      REGISTRATION NUMBER:  26,949
;      REFERENCE/DOCKET NUMBER:  93,084
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312-715-1000
;      TELEFAX:  312-715-1234
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  39 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  1..39
;      OTHER INFORMATION:  /label= Exendin-3
US-08-066-480-1

  Query Match             95.7%;  Score 200;  DB 1;  Length 39;
  Best Local Similarity   94.9%;  Pred. No. 3.7e-19;
  Matches   37;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          | :|||||||||||||||||||||||||||||||||||||
Db      1 HSDGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 10
US-09-302-596-7
; Sequence 7, Application US/09302596
; Patent No. 6284725
; GENERAL INFORMATION:
;  APPLICANT: Coolidge, Thomas R.
;  APPLICANT:  Ehlers, Mario R.W.
;  TITLE OF INVENTION: Metabolic Intervention with GLP-1 to Improve the Function of
;  TITLE OF INVENTION:  Ischemic and Reperfused Tissue
;  FILE REFERENCE: P03660US1
;  CURRENT APPLICATION NUMBER: US/09/302,596
;  CURRENT FILING DATE:  1999-04-30
;  PRIOR APPLICATION NUMBER: 60/103,498
;  PRIOR FILING DATE: 1998-10-08
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 7
;   LENGTH: 39
;   TYPE: PRT
;   ORGANISM: Gila Monster venom
US-09-302-596-7

  Query Match             95.7%;  Score 200;  DB 4;  Length 39;
  Best Local Similarity   94.9%;  Pred. No. 3.7e-19;
  Matches   37;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          | :|||||||||||||||||||||||||||||||||||||
Db      1 HSDGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 11
US-09-623-618B-11
; Sequence 11, Application US/09623618B
; Patent No. 6329336
; GENERAL INFORMATION:
;  APPLICANT: Bridon, Dominique P.
;  APPLICANT:  L'Archeveque, Benoit
;  APPLICANT:  Ezrin, Alan M.
;  APPLICANT:  Holmes, Darren L.
;  APPLICANT:  Leblanc, Anouk
;  APPLICANT:  St. Pierre, Serge
;  TITLE OF INVENTION: LONG LASTING INSULINOTROPIC PEPTIDES
;  FILE REFERENCE: 500862001620
;  CURRENT APPLICATION NUMBER: US/09/623,618B
;  CURRENT FILING DATE:  2000-09-05
;  PRIOR APPLICATION NUMBER: PCT/US00/13563
;  PRIOR FILING DATE: 2000-05-17
;  PRIOR APPLICATION NUMBER: 60/159,783
;  PRIOR FILING DATE: 1999-10-15
;  PRIOR APPLICATION NUMBER: 60/134,406
;  PRIOR FILING DATE: 1999-05-17
;  NUMBER OF SEQ ID NOS: 35
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 11
;   LENGTH: 39
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Synthetic
;   OTHER INFORMATION: Peptide
US-09-623-618B-11

  Query Match             95.7%;  Score 200;  DB 4;  Length 39;
  Best Local Similarity   94.9%;  Pred. No. 3.7e-19;
  Matches   37;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          | :|||||||||||||||||||||||||||||||||||||
Db      1 HSDGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 12
US-09-333-415-7
; Sequence 7, Application US/09333415
; Patent No. 6344180
; GENERAL INFORMATION:
;  APPLICANT:  Holst, Jens J.
;  APPLICANT:  Vilsboll, Tina
;  TITLE OF INVENTION:  GLP-1 as a Diagnostic Test to Determine Beta-Cell
;  TITLE OF INVENTION:  Function and the Presence of the Condition of IGT and
;  TITLE OF INVENTION:  Type-II Diabetes
;  FILE REFERENCE:  P03987US0
;  CURRENT APPLICATION NUMBER: US/09/333,415
;  CURRENT FILING DATE:  1999-06-15
;  NUMBER OF SEQ ID NOS:  13
;  SOFTWARE:  PatentIn Ver. 2.0
; SEQ ID NO 7
;   LENGTH: 39
;   TYPE: PRT
;   ORGANISM: Heloderma suspectum
US-09-333-415-7

  Query Match             95.7%;  Score 200;  DB 4;  Length 39;
  Best Local Similarity   94.9%;  Pred. No. 3.7e-19;
  Matches   37;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
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Db      1 HSDGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 13
US-09-303-016-7
; Sequence 7, Application US/09303016
; Patent No. 6429197
; GENERAL INFORMATION:
;  APPLICANT:  Coolidge, Thomas R.
;  APPLICANT:  Ehlers, Mario R.W.
;  TITLE OF INVENTION:  Metabolic Intervention with GLP-1 or its Biologically
;  TITLE OF INVENTION:  Active Analogues to Improve the Function of the
;  TITLE OF INVENTION:  Ischemic and Reperfused Brain
;  FILE REFERENCE:  P03660US2
;  CURRENT APPLICATION NUMBER: US/09/303,016
;  CURRENT FILING DATE:  1999-04-30
;  PRIOR APPLICATION NUMBER:  60/103,498
;  PRIOR FILING DATE:  1998-10-08
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;  NUMBER OF SEQ ID NOS:  13
;  SOFTWARE:  PatentIn Ver. 2.0
; SEQ ID NO 7
;   LENGTH: 39
;   TYPE: PRT
;   ORGANISM: Heloderma suspectum
US-09-303-016-7

  Query Match             95.7%;  Score 200;  DB 4;  Length 39;
  Best Local Similarity   94.9%;  Pred. No. 3.7e-19;
  Matches   37;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
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Db      1 HSDGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 14
US-09-623-618B-19
; Sequence 19, Application US/09623618B
; Patent No. 6329336
; GENERAL INFORMATION:
;  APPLICANT: Bridon, Dominique P.
;  APPLICANT:  L'Archeveque, Benoit
;  APPLICANT:  Ezrin, Alan M.
;  APPLICANT:  Holmes, Darren L.
;  APPLICANT:  Leblanc, Anouk
;  APPLICANT:  St. Pierre, Serge
;  TITLE OF INVENTION: LONG LASTING INSULINOTROPIC PEPTIDES
;  FILE REFERENCE: 500862001620
;  CURRENT APPLICATION NUMBER: US/09/623,618B
;  CURRENT FILING DATE:  2000-09-05
;  PRIOR APPLICATION NUMBER: PCT/US00/13563
;  PRIOR FILING DATE: 2000-05-17
;  PRIOR APPLICATION NUMBER: 60/159,783
;  PRIOR FILING DATE: 1999-10-15
;  PRIOR APPLICATION NUMBER: 60/134,406
;  PRIOR FILING DATE: 1999-05-17
;  NUMBER OF SEQ ID NOS: 35
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 19
;   LENGTH: 40
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Synthetic
;   OTHER INFORMATION: Peptide
US-09-623-618B-19

  Query Match             95.7%;  Score 200;  DB 4;  Length 40;
  Best Local Similarity   94.9%;  Pred. No. 3.9e-19;
  Matches   37;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          | :|||||||||||||||||||||||||||||||||||||
Db      1 HSDGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 15
US-09-623-618B-33
; Sequence 33, Application US/09623618B
; Patent No. 6329336
; GENERAL INFORMATION:
;  APPLICANT: Bridon, Dominique P.
;  APPLICANT:  L'Archeveque, Benoit
;  APPLICANT:  Ezrin, Alan M.
;  APPLICANT:  Holmes, Darren L.
;  APPLICANT:  Leblanc, Anouk
;  APPLICANT:  St. Pierre, Serge
;  TITLE OF INVENTION: LONG LASTING INSULINOTROPIC PEPTIDES
;  FILE REFERENCE: 500862001620
;  CURRENT APPLICATION NUMBER: US/09/623,618B
;  CURRENT FILING DATE:  2000-09-05
;  PRIOR APPLICATION NUMBER: PCT/US00/13563
;  PRIOR FILING DATE: 2000-05-17
;  PRIOR APPLICATION NUMBER: 60/159,783
;  PRIOR FILING DATE: 1999-10-15
;  PRIOR APPLICATION NUMBER: 60/134,406
;  PRIOR FILING DATE: 1999-05-17
;  NUMBER OF SEQ ID NOS: 35
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 33
;   LENGTH: 40
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Synthetic
;   OTHER INFORMATION: Peptide
;   NAME/KEY: MOD_RES
;   LOCATION: 40
;   OTHER INFORMATION: Xaa represents Lys(E-MPA)-NH2-5TFA and where "E" represents E
US-09-623-618B-33

  Query Match             95.7%;  Score 200;  DB 4;  Length 40;
  Best Local Similarity   94.9%;  Pred. No. 3.9e-19;
  Matches   37;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
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Db      1 HSDGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


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GenCore version 5.1.3

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(without alignments)
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Perfect score: 209
Sequence: 1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39

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Gapop 10.0 , Gapext 0.5

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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3: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*
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12: /cgn2_6/ptodata/2/pubpaa/US10_PUBCOMB.pep:*
13: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep:*
14: /cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	209	100.0	39	10	US-09-876-388-12	Sequence 12, Appl
2	209	100.0	39	10	US-09-851-738-9	Sequence 9, Appli
3	209	100.0	39	10	US-09-805-507-9	Sequence 9, Appli
4	209	100.0	39	10	US-09-859-804-9	Sequence 9, Appli
5	209	100.0	39	10	US-09-003-869-2	Sequence 2, Appli
6	209	100.0	39	10	US-09-982-978-9	Sequence 9, Appli
7	209	100.0	39	10	US-09-953-021B-9	Sequence 9, Appli
8	209	100.0	40	10	US-09-876-388-18	Sequence 18, Appl
9	209	100.0	40	10	US-09-876-388-31	Sequence 31, Appl
10	209	100.0	40	10	US-09-876-388-32	Sequence 32, Appl
11	208	99.5	39	10	US-09-003-869-25	Sequence 25, Appl
12	206	98.6	39	10	US-09-003-869-10	Sequence 10, Appl
13	206	98.6	39	10	US-09-003-869-14	Sequence 14, Appl
14	206	98.6	39	10	US-09-003-869-18	Sequence 18, Appl
15	206	98.6	39	10	US-09-003-869-29	Sequence 29, Appl
16	205	98.1	38	10	US-09-003-869-62	Sequence 62, Appl
17	205	98.1	39	10	US-09-003-869-13	Sequence 13, Appl
18	205	98.1	39	10	US-09-003-869-16	Sequence 16, Appl
19	205	98.1	39	10	US-09-003-869-19	Sequence 19, Appl
20	204	97.6	39	10	US-09-003-869-20	Sequence 20, Appl
21	204	97.6	39	10	US-09-003-869-27	Sequence 27, Appl
22	203	97.1	39	10	US-09-003-869-12	Sequence 12, Appl
23	203	97.1	39	10	US-09-003-869-22	Sequence 22, Appl
24	202	96.7	39	10	US-09-003-869-15	Sequence 15, Appl
25	202	96.7	39	10	US-09-003-869-17	Sequence 17, Appl
26	202	96.7	39	10	US-09-003-869-24	Sequence 24, Appl
27	201	96.2	39	10	US-09-003-869-187	Sequence 187, App
28	200	95.7	39	10	US-09-876-388-11	Sequence 11, Appl
29	200	95.7	39	10	US-09-851-738-7	Sequence 7, Appli
30	200	95.7	39	10	US-09-805-507-7	Sequence 7, Appli
31	200	95.7	39	10	US-09-859-804-7	Sequence 7, Appli
32	200	95.7	39	10	US-09-003-869-1	Sequence 1, Appli
33	200	95.7	39	10	US-09-982-978-7	Sequence 7, Appli
34	200	95.7	39	10	US-09-953-021B-7	Sequence 7, Appli
35	200	95.7	40	10	US-09-876-388-19	Sequence 19, Appl
36	200	95.7	40	10	US-09-876-388-33	Sequence 33, Appl
37	200	95.7	40	10	US-09-876-388-34	Sequence 34, Appl
38	199	95.2	39	10	US-09-003-869-11	Sequence 11, Appl
39	199	95.2	39	10	US-09-003-869-30	Sequence 30, Appl
40	198	94.7	37	10	US-09-003-869-64	Sequence 64, Appl
41	197	94.3	38	10	US-09-003-869-167	Sequence 167, App
42	196	93.8	39	10	US-09-003-869-9	Sequence 9, Appli
43	195	93.3	39	10	US-09-003-869-26	Sequence 26, Appl
44	193	92.3	39	10	US-09-003-869-23	Sequence 23, Appl
45	192	91.9	37	10	US-09-003-869-169	Sequence 169, App

ALIGNMENTS

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RESULT 1
US-09-876-388-12
; Sequence 12, Application US/09876388
; Patent No. US20020049153A1
; GENERAL INFORMATION:
;  APPLICANT: Bridon, Dominique P.
;  APPLICANT:  L'Archeveque, Benoit
;  APPLICANT:  Ezrin, Alan M.
;  APPLICANT:  Holmes, Darren L.
;  APPLICANT:  Leblanc, Anouk
;  APPLICANT:  St. Pierre, Serge
;  TITLE OF INVENTION: LONG LASTING INSULINOTROPIC PEPTIDES
;  FILE REFERENCE: 500862001610
;  CURRENT APPLICATION NUMBER: US/09/876,388
;  CURRENT FILING DATE:  2001-09-24
;  PRIOR APPLICATION NUMBER: 09/623,618
;  PRIOR FILING DATE: 2000-09-05
;  PRIOR APPLICATION NUMBER: PCT/US00/13563
;  PRIOR FILING DATE: 2000-05-17
;  PRIOR APPLICATION NUMBER: 60/159,783
;  PRIOR FILING DATE: 1999-10-15
;  PRIOR APPLICATION NUMBER: 60/134,406
;  PRIOR FILING DATE: 1999-05-17
;  NUMBER OF SEQ ID NOS: 35
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 12
;   LENGTH: 39
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Synthetic
;   OTHER INFORMATION: Peptide
US-09-876-388-12

  Query Match             100.0%;  Score 209;  DB 10;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 9.5e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
           |||||||||||||||||||||||||||||||||||||||
Db       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
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RESULT 2
US-09-851-738-9
; Sequence 9, Application US/09851738
; Patent No. US20020055460A1
; GENERAL INFORMATION:
;  APPLICANT: Coolidge, Thomas R.
;  APPLICANT:  Ehlers, Mario R.W.
;  TITLE OF INVENTION: Metabolic Intervention with GLP-1 to Improve the Function of
;  TITLE OF INVENTION:  Ischemic and Reperfused Tissue
;  FILE REFERENCE: P03660US1
;  CURRENT APPLICATION NUMBER: US/09/851,738
;  CURRENT FILING DATE:  2001-05-09
;  PRIOR APPLICATION NUMBER: 09/302,596
;  PRIOR FILING DATE: 1999-04-30
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 9
;   LENGTH: 39
;   TYPE: PRT
;   ORGANISM: Gila Monster venom
US-09-851-738-9

  Query Match             100.0%;  Score 209;  DB 10;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 9.5e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 3
US-09-805-507-9
; Sequence 9, Application US/09805507
; Patent No. US20020098195A1
; GENERAL INFORMATION:
;  APPLICANT: COOLIDGE, THOMAS R.
;  APPLICANT:  EHLERS, MARIO
;  TITLE OF INVENTION: TREATMENT OF ACUTE CORONARY SYNDROME WITH GLP-1
;  FILE REFERENCE: 089187/0395
;  CURRENT APPLICATION NUMBER: US/09/805,507
;  CURRENT FILING DATE:  2001-03-14
;  PRIOR APPLICATION NUMBER: 09/859,804
;  PRIOR FILING DATE: 2001-05-18
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 9
;   LENGTH: 39
;   TYPE: PRT
;   ORGANISM: Unknown Organism
;   FEATURE:
;   OTHER INFORMATION: Description of Unknown Organism: Exendrin 4
US-09-805-507-9

  Query Match             100.0%;  Score 209;  DB 10;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 9.5e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 4
US-09-859-804-9
; Sequence 9, Application US/09859804
; Patent No. US20020107206A1
; GENERAL INFORMATION:
;  APPLICANT: COOLIDGE, THOMAS R.
;  APPLICANT:  EHLERS, MARIO
;  TITLE OF INVENTION: TREATMENT OF ACUTE CORONARY SYNDROME WITH GLP-1
;  FILE REFERENCE: 089187/0395
;  CURRENT APPLICATION NUMBER: US/09/859,804
;  CURRENT FILING DATE:  2001-05-18
;  PRIOR APPLICATION NUMBER: 60/205,239
;  PRIOR FILING DATE: 2000-05-19
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 9
;   LENGTH: 39
;   TYPE: PRT
;   ORGANISM: Unknown Organism
;   FEATURE:
;   OTHER INFORMATION: Description of Unknown Organism: Exendrin 4
US-09-859-804-9

  Query Match             100.0%;  Score 209;  DB 10;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 9.5e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 5
US-09-003-869-2
; Sequence 2, Application US/09003869A
; Patent No. US20020137666A1
; GENERAL INFORMATION:
;  APPLICANT: BEELEY, NIGEL ROBERT ARNOLD
;  APPLICANT: PRICKETT, KATHRYN S.
;  APPLICANT: BHAVSAR, SUNIL
;  TITLE OF INVENTION: USE OF EXENDINS AND AGONISTS THEREOF FOR
;  TITLE OF INVENTION: THE REDUCTION OF FOOD INTAKE
;  FILE REFERENCE: 231/181
;  CURRENT APPLICATION NUMBER: US/09/003,869A
;  CURRENT FILING DATE: 1998-01-07
;  EARLIER APPLICATION NUMBER: US 60/034,905
;  EARLIER FILING DATE: 1997-01-07
;  EARLIER APPLICATION NUMBER: US 60/055,404
;  EARLIER FILING DATE: 1997-08-08
;  EARLIER APPLICATION NUMBER: US 60/065,442
;  EARLIER FILING DATE: 1997-11-14
;  EARLIER APPLICATION NUMBER: US 60/066,029
;  EARLIER FILING DATE: 1997-11-14
;  NUMBER OF SEQ ID NOS: 188
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 2
;   LENGTH: 39
;   TYPE: PRT
;   ORGANISM: Heloderma suspectum
;   FEATURE:
;   NAME/KEY: AMIDATION
;   LOCATION: (39)...(39)
;   OTHER INFORMATION: amidated Ser (Serinamide)
US-09-003-869-2

  Query Match             100.0%;  Score 209;  DB 10;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 9.5e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 6
US-09-982-978-9
; Sequence 9, Application US/09982978
; Patent No. US20020146405A1
; GENERAL INFORMATION:
;  APPLICANT: COOLIDGE, THOMAS R.
;  APPLICANT:  EHLERS, MARIO
;  TITLE OF INVENTION: TREATMENT OF ACUTE CORONARY SYNDROME WITH GLP-1
```

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;  FILE REFERENCE: 089187/0395
;  CURRENT APPLICATION NUMBER: US/09/982,978
;  CURRENT FILING DATE:  2001-10-22
;  PRIOR APPLICATION NUMBER: 09/859,804
;  PRIOR FILING DATE: 2001-05-18
;  PRIOR APPLICATION NUMBER: 60/205,239
;  PRIOR FILING DATE: 2000-05-19
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 9
;   LENGTH: 39
;   TYPE: PRT
;   ORGANISM: Unknown Organism
;   FEATURE:
;   OTHER INFORMATION: Description of Unknown Organism: Exendrin 4
US-09-982-978-9

  Query Match           100.0%;  Score 209;  DB 10;  Length 39;
  Best Local Similarity  100.0%;  Pred. No. 9.5e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 7
US-09-953-021B-9
; Sequence 9, Application US/09953021B
; Patent No. US20020147131A1
; GENERAL INFORMATION:
;  APPLICANT: Coolidge, Thomas L.
;  APPLICANT:  Ehlers, Mario R.W.
;  TITLE OF INVENTION: Metabolic Intervention with GLP-1 to Improve the Function of Isch
;  TITLE OF INVENTION:  Reperfused Skeletal Muscle Tissue
;  FILE REFERENCE: P03660US6
;  CURRENT APPLICATION NUMBER: US/09/953,021B
;  CURRENT FILING DATE:  2001-09-11
;  PRIOR APPLICATION NUMBER: 09/302,596
;  PRIOR FILING DATE: 1999-04-30
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 9
;   LENGTH: 39
;   TYPE: PRT
;   ORGANISM: Heloderma suspectum
US-09-953-021B-9

  Query Match           100.0%;  Score 209;  DB 10;  Length 39;
  Best Local Similarity  100.0%;  Pred. No. 9.5e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 8
US-09-876-388-18
; Sequence 18, Application US/09876388
; Patent No. US20020049153A1
; GENERAL INFORMATION:
;  APPLICANT: Bridon, Dominique P.
;  APPLICANT:  L'Archeveque, Benoit
;  APPLICANT:  Ezrin, Alan M.
;  APPLICANT:  Holmes, Darren L.
;  APPLICANT:  Leblanc, Anouk
;  APPLICANT:  St. Pierre, Serge
;  TITLE OF INVENTION: LONG LASTING INSULINOTROPIC PEPTIDES
;  FILE REFERENCE: 500862001610
;  CURRENT APPLICATION NUMBER: US/09/876,388
;  CURRENT FILING DATE:  2001-09-24
;  PRIOR APPLICATION NUMBER: 09/623,618
;  PRIOR FILING DATE: 2000-09-05
;  PRIOR APPLICATION NUMBER: PCT/US00/13563
;  PRIOR FILING DATE: 2000-05-17
;  PRIOR APPLICATION NUMBER: 60/159,783
;  PRIOR FILING DATE: 1999-10-15
;  PRIOR APPLICATION NUMBER: 60/134,406
;  PRIOR FILING DATE: 1999-05-17
;  NUMBER OF SEQ ID NOS: 35
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 18
;   LENGTH: 40
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Synthetic
;   OTHER INFORMATION: Peptide
US-09-876-388-18

  Query Match           100.0%;  Score 209;  DB 10;  Length 40;
  Best Local Similarity  100.0%;  Pred. No. 9.8e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 9
US-09-876-388-31
; Sequence 31, Application US/09876388
; Patent No. US20020049153A1
; GENERAL INFORMATION:
;  APPLICANT: Bridon, Dominique P.
;  APPLICANT:  L'Archeveque, Benoit
;  APPLICANT:  Ezrin, Alan M.
;  APPLICANT:  Holmes, Darren L.
;  APPLICANT:  Leblanc, Anouk
;  APPLICANT:  St. Pierre, Serge
;  TITLE OF INVENTION: LONG LASTING INSULINOTROPIC PEPTIDES
;  FILE REFERENCE: 500862001610
;  CURRENT APPLICATION NUMBER: US/09/876,388
;  CURRENT FILING DATE:  2001-09-24
;  PRIOR APPLICATION NUMBER: 09/623,618
;  PRIOR FILING DATE: 2000-09-05
;  PRIOR APPLICATION NUMBER: PCT/US00/13563
;  PRIOR FILING DATE: 2000-05-17
;  PRIOR APPLICATION NUMBER: 60/159,783
;  PRIOR FILING DATE: 1999-10-15
;  PRIOR APPLICATION NUMBER: 60/134,406
;  PRIOR FILING DATE: 1999-05-17
;  NUMBER OF SEQ ID NOS: 35
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 31
;   LENGTH: 40
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Synthetic
;   OTHER INFORMATION: Peptide
;   NAME/KEY: MOD_RES
;   LOCATION: 40
;   OTHER INFORMATION: Xaa represents Lys(E-MPA)-NH2-5TFA and where "E" represents Et
US-09-876-388-31

  Query Match           100.0%;  Score 209;  DB 10;  Length 40;
  Best Local Similarity  100.0%;  Pred. No. 9.8e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
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RESULT 10
US-09-876-388-32
; Sequence 32, Application US/09876388
; Patent No. US20020049153A1
; GENERAL INFORMATION:
;  APPLICANT: Bridon, Dominique P.
;  APPLICANT:  L'Archeveque, Benoit
;  APPLICANT:  Ezrin, Alan M.
;  APPLICANT:  Holmes, Darren L.
;  APPLICANT:  Leblanc, Anouk
;  APPLICANT:  St. Pierre, Serge
;  TITLE OF INVENTION: LONG LASTING INSULINOTROPIC PEPTIDES
;  FILE REFERENCE: 500862001610
;  CURRENT APPLICATION NUMBER: US/09/876,388
;  CURRENT FILING DATE:  2001-09-24
;  PRIOR APPLICATION NUMBER: 09/623,618
;  PRIOR FILING DATE: 2000-09-05
;  PRIOR APPLICATION NUMBER: PCT/US00/13563
;  PRIOR FILING DATE: 2000-05-17
;  PRIOR APPLICATION NUMBER: 60/159,783
;  PRIOR FILING DATE: 1999-10-15
;  PRIOR APPLICATION NUMBER: 60/134,406
;  PRIOR FILING DATE: 1999-05-17
;  NUMBER OF SEQ ID NOS: 35
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 32
;   LENGTH: 40
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Synthetic
;   OTHER INFORMATION: Peptide
;   NAME/KEY: MOD_RES
;   LOCATION: 40
;   OTHER INFORMATION: Xaa represents Lys(E-AEEA-AEEA-MPA)-NH2-5TFA and where "E" repres
US-09-876-388-32

  Query Match           100.0%;  Score 209;  DB 10;  Length 40;
  Best Local Similarity  100.0%;  Pred. No. 9.8e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 11
US-09-003-869-25
; Sequence 25, Application US/09003869A
; Patent No. US20020137666A1
; GENERAL INFORMATION:
;  APPLICANT: BEELEY, NIGEL ROBERT ARNOLD
;  APPLICANT: PRICKETT, KATHRYN S.
;  APPLICANT: BHAVSAR, SUNIL
;  TITLE OF INVENTION: USE OF EXENDINS AND AGONISTS THEREOF FOR
;  TITLE OF INVENTION: THE REDUCTION OF FOOD INTAKE
;  FILE REFERENCE: 231/181
;  CURRENT APPLICATION NUMBER: US/09/003,869A
;  CURRENT FILING DATE: 1998-01-07
;  EARLIER APPLICATION NUMBER: US 60/034,905
;  EARLIER FILING DATE: 1997-01-07
;  EARLIER APPLICATION NUMBER: US 60/055,404
;  EARLIER FILING DATE: 1997-08-08
;  EARLIER APPLICATION NUMBER: US 60/065,442
;  EARLIER FILING DATE: 1997-11-14
;  EARLIER APPLICATION NUMBER: US 60/066,029
;  EARLIER FILING DATE: 1997-11-14
;  NUMBER OF SEQ ID NOS: 188
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 25
;   LENGTH: 39
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: artificially synthesized sequence of novel exendin agonist
;   OTHER INFORMATION: compound
;   FEATURE:
;   NAME/KEY: AMIDATION
;   LOCATION: (39)...(39)
;   OTHER INFORMATION: amidated Ser (Serinamide)
US-09-003-869-25

  Query Match           99.5%;  Score 208;  DB 10;  Length 39;
  Best Local Similarity  97.4%;  Pred. No. 1.3e-19;
  Matches   38;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||:||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFVEWLKNGGPSSGAPPPS 39


RESULT 12
US-09-003-869-10
; Sequence 10, Application US/09003869A
; Patent No. US20020137666A1
; GENERAL INFORMATION:
;  APPLICANT: BEELEY, NIGEL ROBERT ARNOLD
;  APPLICANT: PRICKETT, KATHRYN S.
;  APPLICANT: BHAVSAR, SUNIL
;  TITLE OF INVENTION: USE OF EXENDINS AND AGONISTS THEREOF FOR
;  TITLE OF INVENTION: THE REDUCTION OF FOOD INTAKE
;  FILE REFERENCE: 231/181
;  CURRENT APPLICATION NUMBER: US/09/003,869A
;  CURRENT FILING DATE: 1998-01-07
;  EARLIER APPLICATION NUMBER: US 60/034,905
;  EARLIER FILING DATE: 1997-01-07
;  EARLIER APPLICATION NUMBER: US 60/055,404
;  EARLIER FILING DATE: 1997-08-08
;  EARLIER APPLICATION NUMBER: US 60/065,442
;  EARLIER FILING DATE: 1997-11-14
;  EARLIER APPLICATION NUMBER: US 60/066,029
;  EARLIER FILING DATE: 1997-11-14
;  NUMBER OF SEQ ID NOS: 188
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 10
;   LENGTH: 39
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: artificially synthesized sequence of novel exendin agonist
;   OTHER INFORMATION: compound
;   FEATURE:
;   NAME/KEY: AMIDATION
;   LOCATION: (39)...(39)
;   OTHER INFORMATION: amidated Ser (Serinamide)
US-09-003-869-10

  Query Match           98.6%;  Score 206;  DB 10;  Length 39;
  Best Local Similarity  97.4%;  Pred. No. 2.3e-19;
  Matches   38;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||:||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQLEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 13
US-09-003-869-14
; Sequence 14, Application US/09003869A
; Patent No. US20020137666A1
; GENERAL INFORMATION:
;  APPLICANT: BEELEY, NIGEL ROBERT ARNOLD
;  APPLICANT: PRICKETT, KATHRYN S.
;  APPLICANT: BHAVSAR, SUNIL
;  TITLE OF INVENTION: USE OF EXENDINS AND AGONISTS THEREOF FOR
;  TITLE OF INVENTION: THE REDUCTION OF FOOD INTAKE
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;  FILE REFERENCE: 231/181
;  CURRENT APPLICATION NUMBER: US/09/003,869A
;  CURRENT FILING DATE: 1998-01-07
;  EARLIER APPLICATION NUMBER: US 60/034,905
;  EARLIER FILING DATE: 1997-01-07
;  EARLIER APPLICATION NUMBER: US 60/055,404
;  EARLIER FILING DATE: 1997-08-08
;  EARLIER APPLICATION NUMBER: US 60/065,442
;  EARLIER FILING DATE: 1997-11-14
;  EARLIER APPLICATION NUMBER: US 60/066,029
;  EARLIER FILING DATE: 1997-11-14
;  NUMBER OF SEQ ID NOS: 188
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 14
;    LENGTH: 39
;    TYPE: PRT
;    ORGANISM: Artificial Sequence
;    FEATURE:
;    OTHER INFORMATION: artificially synthesized sequence of novel exendin agonist
;    OTHER INFORMATION: compound
;    FEATURE:
;    NAME/KEY: AMIDATION
;    LOCATION: (39)...(39)
;    OTHER INFORMATION: amidated Ser (Serinamide)
US-09-003-869-14

  Query Match             98.6%;  Score 206;  DB 10;  Length 39;
  Best Local Similarity   97.4%;  Pred. No. 2.3e-19;
  Matches   38;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
           ||:||||||||||||||||||||||||||||||||||||
Db       1 HGDGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 14
US-09-003-869-18
; Sequence 18, Application US/09003869A
; Patent No. US20020137666A1
; GENERAL INFORMATION:
;  APPLICANT: BEELEY, NIGEL ROBERT ARNOLD
;  APPLICANT: PRICKETT, KATHRYN S.
;  APPLICANT: BHAVSAR, SUNIL
;  TITLE OF INVENTION: USE OF EXENDINS AND AGONISTS THEREOF FOR
;  TITLE OF INVENTION: THE REDUCTION OF FOOD INTAKE
;  FILE REFERENCE: 231/181
;  CURRENT APPLICATION NUMBER: US/09/003,869A
;  CURRENT FILING DATE: 1998-01-07
;  EARLIER APPLICATION NUMBER: US 60/034,905
;  EARLIER FILING DATE: 1997-01-07
;  EARLIER APPLICATION NUMBER: US 60/055,404
;  EARLIER FILING DATE: 1997-08-08
;  EARLIER APPLICATION NUMBER: US 60/065,442
;  EARLIER FILING DATE: 1997-11-14
;  EARLIER APPLICATION NUMBER: US 60/066,029
;  EARLIER FILING DATE: 1997-11-14
;  NUMBER OF SEQ ID NOS: 188
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 18
;    LENGTH: 39
;    TYPE: PRT
;    ORGANISM: Artificial Sequence
;    FEATURE:
;    OTHER INFORMATION: artificially synthesized sequence of novel exendin agonist
;    OTHER INFORMATION: compound
;    FEATURE:
;    NAME/KEY: AMIDATION
;    LOCATION: (39)...(39)
;    OTHER INFORMATION: amidated Ser (Serinamide)
US-09-003-869-18

  Query Match             98.6%;  Score 206;  DB 10;  Length 39;
  Best Local Similarity   97.4%;  Pred. No. 2.3e-19;
  Matches   38;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
           |||||||:||||||||||||||||||||||||||||||
Db       1 HGEGTFTTDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 15
US-09-003-869-29
; Sequence 29, Application US/09003869A
; Patent No. US20020137666A1
; GENERAL INFORMATION:
;  APPLICANT: BEELEY, NIGEL ROBERT ARNOLD
;  APPLICANT: PRICKETT, KATHRYN S.
;  APPLICANT: BHAVSAR, SUNIL
;  TITLE OF INVENTION: USE OF EXENDINS AND AGONISTS THEREOF FOR
;  TITLE OF INVENTION: THE REDUCTION OF FOOD INTAKE
;  FILE REFERENCE: 231/181
;  CURRENT APPLICATION NUMBER: US/09/003,869A
;  CURRENT FILING DATE: 1998-01-07
;  EARLIER APPLICATION NUMBER: US 60/034,905
;  EARLIER FILING DATE: 1997-01-07
;  EARLIER APPLICATION NUMBER: US 60/055,404
;  EARLIER FILING DATE: 1997-08-08
;  EARLIER APPLICATION NUMBER: US 60/065,442
;  EARLIER FILING DATE: 1997-11-14
;  EARLIER APPLICATION NUMBER: US 60/066,029
;  EARLIER FILING DATE: 1997-11-14
;  NUMBER OF SEQ ID NOS: 188
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 29
;    LENGTH: 39
;    TYPE: PRT
;    ORGANISM: Artificial Sequence
;    FEATURE:
;    OTHER INFORMATION: artificially synthesized sequence of novel exendin agonist
;    OTHER INFORMATION: compound
;    FEATURE:
;    NAME/KEY: AMIDATION
;    LOCATION: (39)...(39)
;    OTHER INFORMATION: amidated Ser (Serinamide)
US-09-003-869-29

  Query Match             98.6%;  Score 206;  DB 10;  Length 39;
  Best Local Similarity   97.4%;  Pred. No. 2.3e-19;
  Matches   38;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
           ||||||||||||||||||||||:||||||||||||||||
Db       1 HGEGTFTSDLSKQMEEEAVRLFIDWLKNGGPSSGAPPPS 39


Search completed: February 13, 2003, 17:13:45
Job time : 22 secs
```

GenCore version 5.1.3

OM protein - protein search, using sw model

Run on: February 13, 2003, 17:08:43 ; Search time 47 Seconds
(without alignments)
79.771 Million cell updates/sec

Title: US-09-756-690A-2
Perfect score: 209
Sequence: 1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283224 seqs, 96134422 residues

Total number of hits satisfying chosen parameters: 283224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	209	100.0	39	1	HWGH4G	exendin-4 - Gila m
2	200	95.7	39	1	HWGH3Z	exendin-3 - Mexica
3	99	47.4	31	2	S44472	glucagon G2 - Nort
4	97	46.4	31	2	S44471	glucagon G1 - Nort
5	97	46.4	101	1	GCFGB	glucagon precursor
6	94	45.0	63	1	GCIDC	glucagon precursor
7	92	44.0	30	2	B61125	glucagon-like pept
8	92	44.0	30	2	C61125	glucagon-like pept
9	91	43.5	30	2	S44473	glucagon-like pept
10	90.5	43.3	178	2	I51058	glucagon I precurs
11	89	42.6	72	1	GCGXA	glucagon precursor
12	88	42.1	66	2	I51093	glucagon - chinook
13	88	42.1	151	1	GCCH	glucagon precursor
14	88	42.1	178	2	I51057	glucagon II precur
15	88	42.1	206	2	I51301	proglucagon - chic
16	87	41.6	29	1	GCDF	glucagon - smaller
17	87	41.6	158	1	GCPG	glucagon precursor
18	87	41.6	180	1	GCHU	glucagon precursor
19	87	41.6	180	1	GCGP	glucagon precursor
20	87	41.6	180	1	GCRTDU	glucagon precursor
21	87	41.6	180	1	GCRT	glucagon precursor
22	87	41.6	180	1	GCHY	glucagon precursor
23	87	41.6	180	1	GCBO	glucagon precursor
24	87	41.6	180	2	A57294	glucagon precursor
25	86	41.1	122	1	GCAF2	glucagon 2 precurs
26	84	40.2	29	1	GCFLE	glucagon - Europea
27	84	40.2	29	2	S07211	glucagon - marbled
28	84	40.2	29	2	A61135	glucagon - bigeye
29	84	40.2	87	1	GCFIS	glucagon precursor
30	83	39.7	60	1	GCONC	glucagon precursor
31	81	38.8	29	1	GCCB	glucagon - Chinchi
32	81	38.8	124	1	GCAF	glucagon 1 precurs
33	80	38.3	29	2	A91741	glucagon - rabbit
34	80	38.3	29	2	A91742	glucagon - Arabian
35	80	38.3	29	2	C39258	glucagon - common
36	80	38.3	69	1	GCDG69	glucagon-69 - dog
37	79	37.8	29	2	C60840	glucagon I - Europ
38	75	35.9	29	1	GCOPV	glucagon - North A
39	75	35.9	29	1	GCEN	glucagon - elephan
40	75	35.9	29	2	A91740	glucagon - turkey
41	74	35.4	29	1	GCDK	glucagon - duck
42	74	35.4	29	1	A61583	glucagon - ostrich
43	74	35.4	29	1	GCTTS	glucagon - slider
44	74	35.4	29	2	S39018	glucagon - bowfin
45	71.5	34.2	36	2	D60840	glucagon II - Euro

ALIGNMENTS

RESULT 1
HWGH4G
exendin-4 - Gila monster
C;Species: Heloderma suspectum (Gila monster)
C;Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 21-Nov-1997
C;Accession: A42486
R;Eng, J.; Kleinman, W.A.; Singh, L.; Singh, G.; Raufman, J.P.
J. Biol. Chem. 267, 7402-7405, 1992
A;Title: Isolation and characterization of exendin-4, an exendin-3 analogue, from He
A;Reference number: A42486; MUID:92218391; PMID:1313797
A;Accession: A42486
A;Molecule type: protein
A;Residues: 1-39 <ENG>
C;Comment: Exendin-4 does not stimulate amylase secretion by pancreatic acinar cells
C;Superfamily: glucagon
C;Keywords: amidated carboxyl end; duplication; venom
F;39/Modified site: amidated carboxyl end (Ser) #status experimental

Query Match 100.0%; Score 209; DB 1; Length 39;
Best Local Similarity 100.0%; Pred. No. 2.6e-19;
Matches 39; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          |||||||||||||||||||||||||||||||||||||||
Db      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
```

RESULT 2
HWGH3Z
exendin-3 - Mexican beaded lizard
C;Species: Heloderma horridum (Mexican beaded lizard)
C;Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 21-Nov-1997
C;Accession: A23674
R;Eng, J.; Andrews, P.C.; Kleinman, W.A.; Singh, L.; Raufman, J.P.
J. Biol. Chem. 265, 20259-20262, 1990
A;Title: Purification and structure of exendin-3, a new pancreatic secretagogue isol
A;Reference number: A23674; MUID:91056067; PMID:1700785
A;Accession: A23674
A;Molecule type: protein
A;Residues: 1-39 <ENG>
C;Comment: Exendins are venom components that are thought to bind to receptors for v
g in secretion of amylase.
C;Superfamily: glucagon
C;Keywords: amidated carboxyl end; duplication; secretagogue; venom
F;39/Modified site: amidated carboxyl end (Ser) #status experimental

Query Match 95.7%; Score 200; DB 1; Length 39;
Best Local Similarity 94.9%; Pred. No. 3.4e-18;
Matches 37; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

```
Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
          | :|||||||||||||||||||||||||||||||||||||
```

```
Db      1 HSDGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 3
S44472
glucagon G2 - North American paddlefish (Polyodon spathula)
C;Species: Polyodon spathula
C;Date: 19-Mar-1997 #sequence_revision 12-Dec-1997 #text_change 07-May-1999
C;Accession: S44472
R;Nguyen, T.M.; Mommsen, T.P.; Mims, S.M.; Conlon, J.M.
Biochem. J. 300, 339-345, 1994
A;Title: Characterization of insulins and proglucagon-derived peptides from a phylogenet
A;Reference number: S44467; MUID:94271144; PMID:8002937
A;Accession: S44472
A;Molecule type: protein
A;Residues: 1-31 <NGU>
A;Note: the sequence from Fig. 3 is inconsistent with that from Fig. 5 in having 29-Glu
C;Superfamily: glucagon
C;Keywords: carbohydrate metabolism; duplication; hormone; pancreas
F;1-31/Product: glucagon G2 #status predicted <GCN>

  Query Match             47.4%;  Score 99;  DB 2;  Length 31;
  Best Local Similarity   55.2%;  Pred. No. 9.4e-06;
  Matches   16;  Conservative    7;  Mismatches    6;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
          | :| ||:| || :||:: : |:||||||
Db      1 HSQGMFTNDYSKYLEEKSAKEFVEWLKNG 29


RESULT 4
S44471
glucagon G1 - North American paddlefish (Polyodon spathula)
C;Species: Polyodon spathula
C;Date: 18-Sep-1997 #sequence_revision 18-Sep-1997 #text_change 07-May-1999
C;Accession: S44471
R;Nguyen, T.M.; Mommsen, T.P.; Mims, S.M.; Conlon, J.M.
Biochem. J. 300, 339-345, 1994
A;Title: Characterization of insulins and proglucagon-derived peptides from a phylogenet
A;Reference number: S44467; MUID:94271144; PMID:8002937
A;Accession: S44471
A;Molecule type: protein
A;Residues: 1-31 <NGU>
A;Experimental source: pancreas
C;Superfamily: glucagon
C;Keywords: carbohydrate metabolism; duplication; hormone; pancreas
F;1-31/Product: glucagon G1 #status predicted <MAT>

  Query Match             46.4%;  Score 97;  DB 2;  Length 31;
  Best Local Similarity   55.2%;  Pred. No. 1.7e-05;
  Matches   16;  Conservative    6;  Mismatches    7;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
          | :| ||:| || :||:  : |:||||||
Db      1 HSQGMFTNDYSKYLEEKRAKEFVEWLKNG 29


RESULT 5
GCFGB
glucagon precursor - bullfrog (fragments)
N;Alternate names: oxyntomodulin
N;Contains: glucagon; glucagon-36 (oxyntomodulin); glucagon-like peptide 1; glucagon-lik
C;Species: Rana catesbeiana (bullfrog)
C;Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 20-Mar-1998
C;Accession: B28091; C28091; D28091
R;Pollock, H.G.; Hamilton, J.W.; Rouse, J.B.; Ebner, K.E.; Rawitch, A.B.
J. Biol. Chem. 263, 9746-9751, 1988
A;Title: Isolation of peptide hormones from the pancreas of the bullfrog (Rana catesbeia
A;Reference number: A92730; MUID:88257102; PMID:3260236
A;Accession: B28091
A;Molecule type: protein
A;Residues: 1-36 <PO2>
A;Accession: C28091
A;Molecule type: protein
A;Residues: 37-68 <POL>
A;Accession: D28091
A;Molecule type: protein
A;Residues: 69-101 <PO3>
C;Superfamily: glucagon
C;Keywords: carbohydrate metabolism; duplication; hormone; pancreas
F;1-36/Product: glucagon-36 (oxyntomodulin) #status experimental <G36>
F;1-29/Product: glucagon #status predicted <GCN>
F;37-67/Product: glucagon-like peptide 1 #status experimental <GL1>
F;69-101/Product: glucagon-like peptide 2 #status experimental <GL2>

  Query Match             46.4%;  Score 97;  DB 1;  Length 101;
  Best Local Similarity   51.6%;  Pred. No. 6e-05;
  Matches   16;  Conservative    7;  Mismatches    8;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGP 31
          | :||||||:|  :||:| : |::||  | |
Db     37 HADGTFTSDMSSYLEEKAAKEFVDWLIKGRP 67


RESULT 6
GCIDC
glucagon precursor - channel catfish (fragments)
C;Species: Ictalurus punctatus (channel catfish)
C;Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 20-Mar-1998
C;Accession: A05166; A05167
R;Andrews, P.C.; Ronner, P.
J. Biol. Chem. 260, 3910-3914, 1985
A;Title: Isolation and structures of glucagon and glucagon-like peptide from catfish
A;Reference number: A92514; MUID:85157536; PMID:3838546
A;Accession: A05166
A;Molecule type: protein
A;Residues: 1-29 <AND1>
A;Accession: A05167
A;Molecule type: protein
A;Residues: 30-63 <AND2>
C;Superfamily: glucagon
C;Keywords: carbohydrate metabolism; duplication; hormone; pancreas
F;1-29/Product: glucagon #status experimental <GCN>
F;30-63/Product: glucagon-like peptide 1 #status experimental <GL1>

  Query Match             45.0%;  Score 94;  DB 1;  Length 63;
  Best Local Similarity   48.4%;  Pred. No. 8.4e-05;
  Matches   15;  Conservative    9;  Mismatches    7;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGP 31
          | :||:|||:|  ::::| : || |||:| |
Db     30 HADGTYTSDVSSYLQDQAAKDFITWLKSGQP 60


RESULT 7
B61125
glucagon-like peptide - American eel
C;Species: Anguilla rostrata (American eel)
C;Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 21-Nov-1997
C;Accession: B61125
R;Conlon, J.M.; Andrews, P.C.; Thim, L.; Moon, T.W.
Gen. Comp. Endocrinol. 82, 23-32, 1991
A;Title: The primary structure of glucagon-like peptide but not insulin has been con
A;Reference number: A61125; MUID:91340068; PMID:1874385
A;Accession: B61125
A;Molecule type: protein
A;Residues: 1-30 <CON>
C;Superfamily: glucagon
C;Keywords: amidated carboxyl end; duplication
F;1-30/Product: glucagon-like peptide #status experimental <GLP>
F;30/Modified site: amidated carboxyl end (Arg) #status predicted

  Query Match             44.0%;  Score 92;  DB 2;  Length 30;
  Best Local Similarity   48.3%;  Pred. No. 6.7e-05;
  Matches   14;  Conservative    8;  Mismatches    7;  Indels    0;  Gaps    0;
```

```
Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
          | |||:|||:|  ::::| : |: ||| |
Db      1 HAEGTYTSDVSSYLQDQAAKEFVSWLKTG 29
```

RESULT 8
C61125
glucagon-like peptide - European eel
C;Species: Anguilla anguilla (European eel)
C;Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 21-Nov-1997
C;Accession: C61125
R;Conlon, J.M.; Andrews, P.C.; Thim, L.; Moon, T.W.
Gen. Comp. Endocrinol. 82, 23-32, 1991
A;Title: The primary structure of glucagon-like peptide but not insulin has been conserv
A;Reference number: A61125; MUID:91340068; PMID:1874385
A;Accession: C61125
A;Molecule type: protein
A;Residues: 1-30 <CON>
C;Superfamily: glucagon
C;Keywords: amidated carboxyl end; duplication
F;1-30/Product: glucagon-like peptide #status experimental <GLP>
F;30/Modified site: amidated carboxyl end (Arg) #status experimental

```
  Query Match             44.0%;  Score 92;  DB 2;  Length 30;
  Best Local Similarity   48.3%;  Pred. No. 6.7e-05;
  Matches   14;  Conservative    8;  Mismatches    7;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
          | |||:|||:|  ::::| : |: ||| |
Db      1 HAEGTYTSDVSSYLQDQAAKEFVSWLKTG 29
```

RESULT 9
S44473
glucagon-like peptide - North American paddlefish (Polyodon spathula)
C;Species: Polyodon spathula
C;Date: 18-Sep-1997 #sequence_revision 18-Sep-1997 #text_change 07-May-1999
C;Accession: S44473
R;Nguyen, T.M.; Mommsen, T.P.; Mims, S.M.; Conlon, J.M.
Biochem. J. 300, 339-345, 1994
A;Title: Characterization of insulins and proglucagon-derived peptides from a phylogenet
A;Reference number: S44467; MUID:94271144; PMID:8002937
A;Accession: S44473
A;Molecule type: protein
A;Residues: 1-30 <NGU>
C;Superfamily: glucagon
C;Keywords: duplication; hormone; pancreas
F;1-30/Product: glucagon-like peptide #status predicted <MAT>

```
  Query Match             43.5%;  Score 91;  DB 2;  Length 30;
  Best Local Similarity   55.2%;  Pred. No. 8.9e-05;
  Matches   16;  Conservative    5;  Mismatches    8;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
          | :||:||| |  ::|:| | || ||| |
Db      1 HADGTYTSDASSFLQEQAARDFISWLKKG 29
```

RESULT 10
I51058
glucagon I precursor - rainbow trout
C;Species: Oncorhynchus mykiss (rainbow trout)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C;Accession: I51058; I51299; I51056; I51037; I51036; I51300
R;Irwin, D.M.; Wong, J.
Mol. Endocrinol. 9, 267-277, 1995
A;Title: Trout and chicken proglucagon: alternative splicing generates mRNA transcripts
A;Reference number: A55895; MUID:95295739; PMID:7776976
A;Accession: I51058
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-178 <IRW>
A;Cross-references: EMBL:U19917; NID:g736364; PIDN:AAC59669.1; PID:g736365; GB:S78475; N
A;Accession: I51299
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 52-53,'X',55-123 <IR2>
A;Cross-references: GB:S78473; NID:g999382; PIDN:AAB34504.1; PID:g999383
A;Accession: I51056
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 58-123 <IR3>
A;Cross-references: EMBL:U19913; NID:g736360; PIDN:AAC59667.1; PID:g736361
A;Accession: I51037
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 'M',114-144 <IR4>
A;Cross-references: EMBL:U19919; NID:g736374; PIDN:AAC60213.1; PID:g736377
A;Accession: I51036
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 113-123 <IR5>
A;Cross-references: EMBL:U19918; NID:g736373; PIDN:AAC60212.1; PID:g736376
C;Genetics:
A;Introns: 123/2
C;Superfamily: glucagon
C;Keywords: duplication

```
  Query Match             43.3%;  Score 90.5;  DB 2;  Length 178;
  Best Local Similarity   50.0%;  Pred. No. 0.00071;
  Matches   18;  Conservative    5;  Mismatches   12;  Indels    1;  Gaps    1;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAP 36
          | ||||::| ||  ||   : |::|| |    ||||
Db     52 HSEGTFSNDYSKYQEERMAQDFVQWLMN-SKRSGAP 86
```

RESULT 11
GCGXA
glucagon precursor - alligator gar (fragment)
N;Alternate names: oxyntomodulin
N;Contains: glucagon; glucagon-36 (oxyntomodulin); glucagon-like peptide 1
C;Species: Lepisosteus spatula (alligator gar)
C;Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 20-Mar-1998
C;Accession: S06339; S06871
R;Pollock, H.G.; Kimmel, J.R.; Ebner, K.E.; Hamilton, J.W.; Rouse, J.B.; Lance, V.; F
Gen. Comp. Endocrinol. 69, 133-140, 1988
A;Title: Isolation of alligator gar (Lepisosteus spatula) glucagon, oxyntomodulin, ar
A;Reference number: S06339; MUID:88196798; PMID:3282974
A;Accession: S06339
A;Molecule type: protein
A;Residues: 1-36 <POL>
A;Accession: S06871
A;Molecule type: protein
A;Residues: 39-72 <PO2>
C;Comment: X's at positions 37-38 represent a pair of basic amino acids forming a cle
C;Superfamily: glucagon
C;Keywords: carbohydrate metabolism; duplication; hormone; pancreas
F;1-36/Product: glucagon-36 (oxyntomodulin) #status experimental <G36>
F;1-29/Product: glucagon #status predicted <GCN>
F;39-70/Product: glucagon-like peptide 1 #status predicted <GL1>

```
  Query Match             42.6%;  Score 89;  DB 1;  Length 72;
  Best Local Similarity   44.8%;  Pred. No. 0.00041;
  Matches   13;  Conservative    9;  Mismatches    7;  Indels    0;  Gaps    0;

Qy      1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
          | :||:|||:|  ::::| : |: ||| |
Db     39 HADGTYTSDVSSYLQDQAAKKFVTWLKQG 67
```

RESULT 12
I51093
glucagon - chinook salmon (fragment)
C;Species: Oncorhynchus tschawytscha (chinook salmon)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999

```
C;Accession: I51093
R;Irwin, D.M.; Wong, J.
Mol. Endocrinol. 9, 267-277, 1995
A;Title: Trout and chicken proglucagon: alternative splicing generates mRNA transcripts
A;Reference number: A55895; MUID:95295739; PMID:7776976
A;Accession: I51093
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-66 <IRW>
A;Cross-references: EMBL:U19920; NID:g736366; PIDN:AAC59670.1; PID:g736367
C;Superfamily: glucagon
C;Keywords: duplication

  Query Match             42.1%;  Score 88;  DB 2;  Length 66;
  Best Local Similarity   44.8%;  Pred. No. 0.00049;
  Matches   13;  Conservative   10;  Mismatches    6;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
           | :||:|||:|  ::::| : |: |||:|
Db      33 HADGTYTSDVSTYLQDQAAKDFVSWLKSG 61


RESULT 13
GCCH
glucagon precursor - chicken
N;Contains: glucagon; glucagon-like peptide 1
C;Species: Gallus gallus (chicken)
C;Date: 31-Dec-1991 #sequence_revision 31-Mar-1993 #text_change 18-Jun-1999
C;Accession: S09992; A92189; A60836; A01542
R;Hasegawa, S.; Terazono, K.; Nata, K.; Takada, T.; Yamamoto, H.; Okamoto, H.
FEBS Lett. 264, 117-120, 1990
A;Title: Nucleotide sequence determination of chicken glucagon precursor cDNA. Chicken p
A;Reference number: S09992; MUID:90249492; PMID:2338135
A;Accession: S09992
A;Molecule type: mRNA
A;Residues: 1-151 <HAS>
A;Cross-references: EMBL:Y07539; NID:g63749; PIDN:CAA68827.1; PID:g63750
R;Pollock, H.G.; Kimmel, J.R.
J. Biol. Chem. 250, 9377-9380, 1975
A;Title: Chicken glucagon. Isolation and amino acid sequence studies.
A;Reference number: A92189; MUID:76069271; PMID:1194290
A;Accession: A92189
A;Molecule type: protein
A;Residues: 55-83 <POL>
R;Huang, J.; Eng, J.; Yalow, R.S.
Horm. Metab. Res. 19, 542-544, 1987
A;Title: Chicken glucagon: sequence and potency in receptor assay.
A;Reference number: A60836; MUID:88113418; PMID:2828209
A;Accession: A60836
A;Molecule type: protein
A;Residues: 55-83 <HUA>
C;Superfamily: glucagon
C;Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancre
F;1-22/Domain: signal sequence #status predicted <SIG>
F;23-151/Product: proglucagon #status predicted <PGC>
F;55-83/Product: glucagon #status experimental <GCN>
F;118-147/Product: glucagon-like peptide 1 #status predicted <GL1>
F;147/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

  Query Match             42.1%;  Score 88;  DB 1;  Length 151;
  Best Local Similarity   51.7%;  Pred. No. 0.0012;
  Matches   15;  Conservative    6;  Mismatches    8;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
           | |||:|||::  :| :| : || || ||
Db     118 HAEGTYTSDITSYLEGQAAKEFIAWLVNG 146


RESULT 14
I51057
glucagon II precursor - rainbow trout
C;Species: Oncorhynchus mykiss (rainbow trout)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C;Accession: I51057; I51039; I51038
R;Irwin, D.M.; Wong, J.
Mol. Endocrinol. 9, 267-277, 1995
A;Title: Trout and chicken proglucagon: alternative splicing generates mRNA transcrip
A;Reference number: A55895; MUID:95295739; PMID:7776976
A;Accession: I51057
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-178 <IRW>
A;Cross-references: EMBL:U19914; NID:g736362; PIDN:AAC59668.1; PID:g736363
A;Accession: I51039
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 113-144 <IR2>
A;Cross-references: EMBL:U19916; NID:g736369; PIDN:AAC60210.1; PID:g736372
A;Accession: I51038
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 113-123 <IR3>
A;Cross-references: EMBL:U19915; NID:g736368; PIDN:AAC60209.1; PID:g736371
C;Genetics:
A;Introns: 123/2
C;Superfamily: glucagon
C;Keywords: duplication

  Query Match             42.1%;  Score 88;  DB 2;  Length 178;
  Best Local Similarity   44.8%;  Pred. No. 0.0014;
  Matches   13;  Conservative   10;  Mismatches    6;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
           | :||:|||:|  ::::| : |: |||:|
Db      90 HADGTYTSDVSTYLQDQAAKDFVSWLKSG 118


RESULT 15
I51301
proglucagon - chicken
C;Species: Gallus gallus (chicken)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C;Accession: I51301
R;Irwin, D.M.; Wong, J.
Mol. Endocrinol. 9, 267-277, 1995
A;Title: Trout and chicken proglucagon: alternative splicing generates mRNA transcrip
A;Reference number: A55895; MUID:95295739; PMID:7776976
A;Accession: I51301
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-206 <IRW>
A;Cross-references: GB:S78477; NID:g999386; PIDN:AAB34506.1; PID:g999387
C;Superfamily: glucagon
C;Keywords: duplication

  Query Match             42.1%;  Score 88;  DB 2;  Length 206;
  Best Local Similarity   51.7%;  Pred. No. 0.0017;
  Matches   15;  Conservative    6;  Mismatches    8;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
           | |||:|||::  :| :| : || || ||
Db     118 HAEGTYTSDITSYLEGQAAKEFIAWLVNG 146


Search completed: February 13, 2003, 17:11:58
Job time : 47 secs
```

GenCore version 5.1.3

OM protein - protein search, using sw model

Run on: February 13, 2003, 16:59:58 ; Search time 12 Seconds
(without alignments)
134.798 Million cell updates/sec

Title: US-09-756-690A-2
Perfect score: 209
Sequence: 1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 112892 seqs, 41476328 residues

Total number of hits satisfying chosen parameters: 112892

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	209	100.0	87	1	EXE4_HELSU	P26349 heloderma s
2	200	95.7	39	1	EXE3_HELHO	P20394 heloderma h
3	97	46.4	71	1	GLUC_ICTPU	P04093 ictalurus p
4	97	46.4	103	1	GLUC_RANCA	P15438 rana catesb
5	93	44.5	71	1	GLUC_PIAME	P81880 piaractus m
6	93	44.5	121	1	GLUC_CARAU	P79695 carassius a
7	92	44.0	30	1	GLUM_ANGAN	P41521 anguilla an
8	89	42.6	78	1	GLUC_LEPSP	P09566 lepisosteus
9	88	42.1	151	1	GLUC_CHICK	P01277 gallus gall
10	87	41.6	29	1	GLUC_SCYCA	P09687 scyliorhinu
11	87	41.6	158	1	GLUC_PIG	P01274 sus scrofa
12	87	41.6	180	1	GLUC_BOVIN	P01272 bos taurus
13	87	41.6	180	1	GLUC_CAVPO	P05110 cavia porce
14	87	41.6	180	1	GLUC_HUMAN	P01275 homo sapien
15	87	41.6	180	1	GLUC_MESAU	P01273 mesocricetu
16	87	41.6	180	1	GLUC_MOUSE	P55095 mus musculu
17	87	41.6	180	1	GLUC_OCTDE	P22890 octodon deg
18	87	41.6	180	1	GLUC_RAT	P06883 rattus norv
19	86	41.1	122	1	GLU2_LOPAM	P04092 lophius ame
20	84	40.2	29	1	GLUC_PLAFE	P23062 platichthys
21	84	40.2	29	1	GLUC_TORMA	P09567 torpedo mar
22	84	40.2	96	1	GLUC_MYOSC	P09686 myoxocephal
23	83	39.7	36	1	GLU1_ORENI	P81026 oreochromis
24	83	39.7	68	1	GLUC_ONCKI	P07449 oncorhynchu
25	81	38.8	29	1	GLUC_CHIBR	P31297 chinchilla
26	81	38.8	124	1	GLU1_LOPAM	P01278 lophius ame
27	80	38.3	29	1	GLUC_RABIT	P25449 oryctolagus
28	80	38.3	69	1	GLUC_CANFA	P29794 canis famil
29	79	37.8	33	1	GLU2_ORENI	P81027 oreochromis
30	75	35.9	29	1	GLUC_CALMI	P13189 callorhynch
31	75	35.9	29	1	GLUC_DIDMA	P18108 didelphis m
32	74	35.4	29	1	GLUC_ANAPL	P01276 anas platyr
33	74	35.4	75	1	GLUC_AMICA	P33528 amia calva
34	73	34.9	29	1	GLUC_LAMFL	Q9prq9 lampetra fl
35	66	31.6	36	1	GLUC_HYDCO	P09682 hydrolagus
36	60.5	28.9	1590	1	GCN2_YEAST	P15442 saccharomyc
37	59	28.2	38	1	EXE1_HELSU	P04203 heloderma s
38	58.5	28.0	424	1	PIP_AERSO	P46547 aeromonas s
39	58.5	28.0	898	1	CLC2_RABIT	P51789 oryctolagus
40	57.5	27.5	697	1	SSRP_CAEEL	P41848 caenorhabdi
41	57.5	27.5	898	1	CLC2_HUMAN	P51788 homo sapien
42	56	26.8	170	1	VIP_HUMAN	P01282 homo sapien
43	56	26.8	182	1	PYRE_PYRAB	P56814 pyrococcus
44	55	26.3	42	1	GIP_BOVIN	P09680 bos taurus
45	55	26.3	42	1	GIP_PIG	P01281 sus scrofa

ALIGNMENTS

RESULT 1
EXE4_HELSU
ID EXE4_HELSU STANDARD; PRT; 87 AA.
AC P26349;
DT 01-MAY-1992 (Rel. 22, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Exendin-4 precursor.
OS Heloderma suspectum (Gila monster).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Helodermatidae;
OC Heloderma.
OX NCBI_TaxID=8554;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=97172477; PubMed=9020121;
RA Chen Y.E., Drucker D.J.;
RT "Tissue-specific expression of unique mRNAs that encode proglucagon-
RT derived peptides or exendin 4 in the lizard.";
RL J. Biol. Chem. 272:4108-4115(1997).
RN [2]
RP SEQUENCE OF 48-86.
RC TISSUE=Venom;
RX MEDLINE=92218391; PubMed=1313797;
RA Eng J., Kleinman W.A., Singh L., Singh G., Raufman J.-P.;
RT "Isolation and characterization of exendin-4, an exendin-3 analogue,
RT from Heloderma suspectum venom. Further evidence for an exendin
RT receptor on dispersed acini from guinea pig pancreas.";
RL J. Biol. Chem. 267:7402-7405(1992).
CC -!- FUNCTION: HAS A VIP/SECRETIN-LIKE BIOLOGICAL ACTIVITY. INTERACTS
CC WITH THE EXENDIN RECEPTOR.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: Produced by the venomous gland.
CC -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC ---

CC ---
DR EMBL; U77613; AAB51130.1; -.
DR PIR; A42486; HWGH4G.
DR InterPro; IPR000532; Glucagon.
DR Pfam; PF00123; hormone2; 1.
DR SMART; SM00070; GLUCA; 1.
DR PROSITE; PS00260; GLUCAGON; 1.
KW Glucagon family; Toxin; Amidation; Signal.
FT SIGNAL 1 23 POTENTIAL.
FT PEPTIDE 48 86 EXENDIN-4.
FT MOD_RES 86 86 AMIDATION (G-87 PROVIDE AMIDE GROUP).
SQ SEQUENCE 87 AA; 9479 MW; 656BA6E3D87454A2 CRC64;

Query Match 100.0%; Score 209; DB 1; Length 87;

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  Best Local Similarity   100.0%;  Pred. No. 8.1e-20;
  Matches   39;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
           |||||||||||||||||||||||||||||||||||||||
Db      48 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 86


RESULT 2
EXE3_HELHO
ID   EXE3_HELHO     STANDARD;      PRT;    39 AA.
AC   P20394;
DT   01-FEB-1991 (Rel. 17, Created)
DT   01-FEB-1991 (Rel. 17, Last sequence update)
DT   15-JUN-2002 (Rel. 41, Last annotation update)
DE   Exendin-3.
OS   Heloderma horridum horridum (Mexican beaded lizard).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Helodermatidae;
OC   Heloderma.
OX   NCBI_TaxID=8552;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Venom;
RX   MEDLINE=91056067; PubMed=1700785;
RA   Eng J., Andrew P.C., Kleinman W.A., Singh L., Raufman J.-P.;
RT   "Purification and structure of exendin-3, a new pancreatic
RT   secretagogue isolated from Heloderma horridum venom.";
RL   J. Biol. Chem. 265:20259-20262(1990).
CC   -!- FUNCTION: HAS A VIP/SECRETIN-LIKE BIOLOGICAL ACTIVITY. INTERACTS
CC       WITH THE EXENDIN RECEPTOR.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: Produced by the venomous gland.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR   PIR; A23674; HWGH3Z.
DR   HSSP; P01275; 1BH0.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 1.
DR   SMART; SM00070; GLUCA; 1.
DR   PROSITE; PS00260; GLUCAGON; 1.
KW   Glucagon family; Toxin; Amidation.
FT   MOD_RES      39     39       AMIDATION.
SQ   SEQUENCE   39 AA;  4204 MW;  A44251D3A4B1D1B9 CRC64;

  Query Match             95.7%;  Score 200;  DB 1;  Length 39;
  Best Local Similarity   94.9%;  Pred. No. 4.5e-19;
  Matches   37;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
           | :||||||||||||||||||||||||||||||||||||
Db       1 HSDGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39


RESULT 3
GLUC_ICTPU
ID   GLUC_ICTPU     STANDARD;      PRT;    71 AA.
AC   P04093;
DT   01-NOV-1986 (Rel. 03, Created)
DT   01-MAR-1989 (Rel. 10, Last sequence update)
DT   01-NOV-1990 (Rel. 16, Last annotation update)
DE   Glucagon precursor (Fragment).
OS   Ictalurus punctatus (Channel catfish).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Siluriformes;
OC   Ictaluridae; Ictalurus.
OX   NCBI_TaxID=7998;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Pancreas;
RX   MEDLINE=87156787; PubMed=3030323;
RA   Hoosein N.M., Mahrenholz A.M., Andrews P.C., Gurd R.S.;
RT   "Biological activities of catfish glucagon and glucagon-like
RT   peptide.";
RL   Biochem. Biophys. Res. Commun. 143:87-92(1987).
RN   [2]
RP   SEQUENCE.
RC   TISSUE=Pancreas;
RX   MEDLINE=85157536; PubMed=3838546;
RA   Andrews P.C., Ronner P.;
RT   "Isolation and structures of glucagon and glucagon-like peptide from
RT   catfish pancreas.";
RL   J. Biol. Chem. 260:3910-3914(1985).
CC   -!- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC       THE BLOOD SUGAR LEVEL.
CC   -!- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC       IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC   -!- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLOGY WITH
CC       AMERICAN GOOSEFISH SEQUENCES.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR   PIR; A05166; GCIDC.
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 2.
DR   SMART; SM00070; GLUCA; 2.
DR   PROSITE; PS00260; GLUCAGON; 2.
KW   Glucagon family; Hormone.
FT   NON_TER       1      1
FT   PEPTIDE       1     29       GLUCAGON.
FT   PEPTIDE      38     71       GLUCAGON-LIKE PEPTIDE.
FT   CONFLICT     53     53       E -> D (IN REF. 2).
FT   NON_TER      71     71
SQ   SEQUENCE   71 AA;  8173 MW;  24688E79AD981A8F CRC64;

  Query Match             46.4%;  Score 97;  DB 1;  Length 71;
  Best Local Similarity   51.6%;  Pred. No. 1e-05;
  Matches   16;  Conservative    8;  Mismatches    7;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGP 31
           | :||:|||:|  ::|:| : || |||:| |
Db      38 HADGTYTSDVSSYLQEQAAKDFITWLKSGQP 68


RESULT 4
GLUC_RANCA
ID   GLUC_RANCA     STANDARD;      PRT;   103 AA.
AC   P15438; P15439; P15440;
DT   01-APR-1990 (Rel. 14, Created)
DT   01-JUL-1993 (Rel. 26, Last sequence update)
DT   01-JUL-1993 (Rel. 26, Last annotation update)
DE   Glucagon precursor (Fragments).
OS   Rana catesbeiana (Bull frog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae; Rana.
OX   NCBI_TaxID=8400;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Pancreas;
RX   MEDLINE=88257102; PubMed=3260236;
RA   Pollock H.G., Hamilton J.W., Rouse J.B., Ebner K.E., Rawitch A.B.;
RT   "Isolation of peptide hormones from the pancreas of the bullfrog
RT   (Rana catesbeiana). Amino acid sequences of pancreatic polypeptide,
RT   oxyntomodulin, and two glucagon-like peptides.";
RL   J. Biol. Chem. 263:9746-9751(1988).
CC   -!- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC       THE BLOOD SUGAR LEVEL.
CC   -!- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC       IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC   -!- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLOGY WITH
CC       OTHER SPECIES SEQUENCES.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR   PIR; B28091; GCFGB.
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 3.
DR   PROSITE; PS00260; GLUCAGON; 3.
```

```
KW   Glucagon family; Hormone.
FT   PEPTIDE       1     29       GLUCAGON.
FT   PEPTIDE       1     36       GLUCAGON-36 (OXYNTOMODULIN).
FT   PEPTIDE      39     70       GLUCAGON-LIKE PEPTIDE 1.
FT   NON_CONS     70     71
FT   PEPTIDE      71    103       GLUCAGON-LIKE PEPTIDE 2.
SQ   SEQUENCE   103 AA;  11719 MW;  316287B7BAE1C8F7 CRC64;

  Query Match             46.4%;  Score 97;  DB 1;  Length 103;
  Best Local Similarity   51.6%;  Pred. No. 1.5e-05;
  Matches   16;  Conservative    7;  Mismatches    8;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGP 31
           | :||||||:|  :|||:| : |::||  | |
Db      39 HADGTFTSDMSSYLEEKAAKEFVDWLIKGRP 69


RESULT 5
GLUC_PIAME
ID   GLUC_PIAME     STANDARD;      PRT;    71 AA.
AC   P81880;
DT   30-MAY-2000 (Rel. 39, Created)
DT   30-MAY-2000 (Rel. 39, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   Glucagon precursor (Fragment).
OS   Piaractus mesopotamicus (Pacu).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Characiformes;
OC   Characidae; Piaractus.
OX   NCBI_TaxID=42528;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Pancreas;
RX   MEDLINE=99259587; PubMed=10327603;
RA   de Lima J.A., Oliveira B., Conlon J.M.;
RT   "Purification and characterization of insulin and peptides derived
RT   from proglucagon and prosomatostatin from the fruit-eating fish, the
RT   pacu Piaractus mesopotamicus.";
RL   Comp. Biochem. Physiol. 122B:127-135(1999).
CC   -!- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC       THE BLOOD SUGAR LEVEL.
CC   -!- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC       IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC   -!- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLOGY WITH
CC       OTHER FISH SEQUENCES.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 2.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 2.
DR   PROSITE; PS00260; GLUCAGON; 2.
KW   Glucagon family; Hormone.
FT   NON_TER       1      1
FT   PEPTIDE       1     29       GLUCAGON.
FT   PEPTIDE      38     71       GLUCAGON-LIKE PEPTIDE.
FT   NON_TER      71     71
SQ   SEQUENCE   71 AA;  8146 MW;  F66A3CA2DD9806C5 CRC64;

  Query Match             44.5%;  Score 93;  DB 1;  Length 71;
  Best Local Similarity   48.4%;  Pred. No. 3.2e-05;
  Matches   15;  Conservative    9;  Mismatches    7;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGP 31
           | :||:|||:|  ::::| : || |||:| |
Db      38 HADGTYTSDVSAYLQDQAAKDFITWLKSGQP 68


RESULT 6
GLUC_CARAU
ID   GLUC_CARAU     STANDARD;      PRT;   121 AA.
AC   P79695;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Glucagon precursor [Contains: Glicentin-related polypeptide (GRPP);
DE   Glucagon; Glucagon-like peptide].
OS   Carassius auratus (Goldfish).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC   Cyprinidae; Carassius.
OX   NCBI_TaxID=7957;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Yuen T.T.H., Mok P.Y., Chow B.K.C.;
RL   Submitted (FEB-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC       THE BLOOD SUGAR LEVEL.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U65528; AAB39563.1; -.
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 2.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 2.
DR   PROSITE; PS00260; GLUCAGON; 2.
KW   Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
FT   SIGNAL        1     21       POTENTIAL.
FT   PEPTIDE      22     47       GLICENTIN-RELATED POLYPEPTIDE.
FT   PEPTIDE      50     78       GLUCAGON.
FT   PROPEP       80     85
FT   PEPTIDE      88    121       GLUCAGON-LIKE PEPTIDE.
SQ   SEQUENCE   121 AA;  13527 MW;  5C1D4BEC1D26B9C6 CRC64;

  Query Match             44.5%;  Score 93;  DB 1;  Length 121;
  Best Local Similarity   48.4%;  Pred. No. 5.8e-05;
  Matches   15;  Conservative    8;  Mismatches    8;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGP 31
           | |||:|||:|  : ::| : |: |||:| |
Db      88 HAEGTYTSDISSFLRDQAAQNFVAWLKSGQP 118


RESULT 7
GLUM_ANGAN
ID   GLUM_ANGAN     STANDARD;      PRT;    30 AA.
AC   P41521;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   01-NOV-1995 (Rel. 32, Last annotation update)
DE   Glucagon-like peptide (GLP).
OS   Anguilla anguilla (European freshwater eel), and
OS   Anguilla rostrata (American eel).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Anguilliformes; Anguillidae;
OC   Anguilla.
OX   NCBI_TaxID=7936, 7938;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Pancreas;
RX   MEDLINE=91340068; PubMed=1874385;
RA   Conlon J.M., Andrews P.C., Thim L., Moon T.W.;
RT   "The primary structure of glucagon-like peptide but not insulin has
RT   been conserved between the American eel, Anguilla rostrata and the
RT   European eel, Anguilla anguilla.";
RL   Gen. Comp. Endocrinol. 82:23-32(1991).
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
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DR   PIR; B61125; B61125.
DR   PIR; C61125; C61125.
DR   HSSP; P01275; 1BH0.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 1.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 1.
DR   PROSITE; PS00260; GLUCAGON; 1.
KW   Glucagon family; Amidation.
FT   MOD_RES      30     30       AMIDATION.
SQ   SEQUENCE   30 AA;  3376 MW;  592DA5EABD6E49D0 CRC64;

  Query Match             44.0%;  Score 92;  DB 1;  Length 30;
  Best Local Similarity   48.3%;  Pred. No. 1.6e-05;
  Matches   14;  Conservative    8;  Mismatches    7;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
           | |||:|||:|  ::::| : |: ||| |
Db       1 HAEGTYTSDVSSYLQDQAAKEFVSWLKTG 29


RESULT 8
GLUC_LEPSP
ID   GLUC_LEPSP     STANDARD;      PRT;    78 AA.
AC   P09566;
DT   01-MAR-1989 (Rel. 10, Created)
DT   01-NOV-1990 (Rel. 16, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Glucagon precursor [Contains: Glucagon; Glucagon-36 (Oxyntomodulin);
DE   Glucagon-like peptide] (Fragment).
OS   Lepisosteus spatula (Alligator gar) (Atractosteus spatula).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Semionotiformes; Lepisosteidae;
OC   Lepisosteus.
OX   NCBI_TaxID=7917;
RN   [1]
RP   SEQUENCE OF 1-36 AND 45-78.
RC   TISSUE=Pancreas;
RX   MEDLINE=88196798; PubMed=3282974;
RA   Pollock H.G., Kimmel J.R., Ebner K.E., Hamilton J.W., Rouse J.B.,
RA   Lance V., Rawitch A.B.;
RT   "Isolation of alligator gar (Lepisosteus spatula) glucagon,
RT   oxyntomodulin, and glucagon-like peptide: amino acid sequences of
RT   oxyntomodulin and glucagon-like peptide.";
RL   Gen. Comp. Endocrinol. 69:133-140(1988).
RN   [2]
RP   PRELIMINARY SEQUENCE OF 1-29.
RC   TISSUE=Pancreas;
RX   MEDLINE=88030594; PubMed=3311873;
RA   Pollock H.G., Kimmel J.R., Hamilton J.W., Rouse J.B., Ebner K.E.,
RA   Lance V., Rawitch A.B.;
RT   "Isolation and structures of alligator gar (Lepisosteus spatula)
RT   insulin and pancreatic polypeptide.";
RL   Gen. Comp. Endocrinol. 67:375-382(1987).
CC   -!- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC       THE BLOOD SUGAR LEVEL.
CC   -!- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC       IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC   -!- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLOGY WITH
CC       AMERICAN GOOSEFISH SEQUENCES.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR   PIR; S06339; GCGXA.
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 2.
DR   SMART; SM00070; GLUCA; 2.
DR   PROSITE; PS00260; GLUCAGON; 2.
KW   Glucagon family; Hormone.
FT   PEPTIDE       1     29       GLUCAGON.
FT   PEPTIDE       1     36       GLUCAGON-36.
FT   PEPTIDE      45     78       GLUCAGON-LIKE PEPTIDE.
SQ   SEQUENCE   78 AA;  8990 MW;  30106496271594E0 CRC64;

  Query Match             42.6%;  Score 89;  DB 1;  Length 78;
  Best Local Similarity   44.8%;  Pred. No. 0.00011;
  Matches   13;  Conservative    9;  Mismatches    7;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
           | :||:|||:|  ::::| : |: ||| |
Db      45 HADGTYTSDVSSYLQDQAAKKFVTWLKQG 73


RESULT 9
GLUC_CHICK
ID   GLUC_CHICK     STANDARD;      PRT;   151 AA.
AC   P01277;
DT   21-JUL-1986 (Rel. 01, Created)
DT   01-AUG-1990 (Rel. 15, Last sequence update)
DT   15-JUL-1999 (Rel. 38, Last annotation update)
DE   Glucagon precursor.
OS   Gallus gallus (Chicken), and
OS   Meleagris gallopavo (Common turkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC   Gallus.
OX   NCBI_TaxID=9031, 9103;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   SPECIES=Chicken; TISSUE=Pancreas;
RX   MEDLINE=90249492; PubMed=2338135;
RA   Hasegawa S., Terazono K., Nata K., Takada T., Yamamoto H.,
RA   Okamoto H.;
RT   "Nucleotide sequence determination of chicken glucagon precursor
RT   cDNA. Chicken preproglucagon does not contain glucagon-like peptide
RT   II.";
RL   FEBS Lett. 264:117-120(1990).
RN   [2]
RP   SEQUENCE OF 55-83.
RC   SPECIES=Chicken;
RX   MEDLINE=76069271; PubMed=1194290;
RA   Pollock H.G., Kimmel J.R.;
RT   "Chicken glucagon. Isolation and amino acid sequence studies.";
RL   J. Biol. Chem. 250:9377-9380(1975).
RN   [3]
RP   COMPOSITION, AND SEQUENCE OF 55-83.
RC   SPECIES=M.gallopavo;
RX   MEDLINE=73074118; PubMed=4645932;
RA   Markussen J., Frandsen E.K., Heding L.G., Sundby F.;
RT   "Turkey glucagon: crystallization, amino acid composition and
RT   immunology.";
RL   Horm. Metab. Res. 4:360-363(1972).
CC   -!- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC       THE BLOOD SUGAR LEVEL.
CC   -!- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC       IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC   -!- MISCELLANEOUS: THE COMPOSITION OF TURKEY GLUCAGON APPEARS TO BE
CC       IDENTICAL WITH CHICKEN.
CC   -!- MISCELLANEOUS: CHICKEN PREPROGLUCAGON DOES NOT CONTAIN
CC       GLUCAGON-LIKE PEPTIDE II.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC   ----------------------------------------------------------------------
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CC   ----------------------------------------------------------------------
DR   EMBL; Y07539; CAA68827.1; -.
DR   PIR; S09992; GCCH.
DR   PIR; A91740; A91740.
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 2.
DR   PRINTS; PR00275; GLUCAGON.
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DR   SMART; SM00070; GLUCA; 2.
DR   PROSITE; PS00260; GLUCAGON; 3.
KW   Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
KW   Amidation.
FT   SIGNAL        1     22
FT   CHAIN        23    151       PROGLUCAGON.
FT   PEPTIDE      55     83       GLUCAGON.
FT   PROPEP       86    118
FT   PEPTIDE     118    147       GLUCAGON-LIKE PEPTIDE.
FT   MOD_RES      147    147       AMIDATION (G-148 PROVIDE AMIDE GROUP).
SQ   SEQUENCE   151 AA;  17520 MW;  B6C0D87536C0AEB5 CRC64;

  Query Match             42.1%;  Score 88;  DB 1;  Length 151;
  Best Local Similarity   51.7%;  Pred. No. 0.00032;
  Matches   15;  Conservative    6;  Mismatches    8;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
           |  |||:|||::  :| :| : || || ||
Db     118 HAEGTYTSDITSYLEGQAAKEFIAWLVNG 146


RESULT 10
GLUC_SCYCA
ID   GLUC_SCYCA     STANDARD;      PRT;    29 AA.
AC   P09687;
DT   01-MAR-1989 (Rel. 10, Created)
DT   01-MAR-1989 (Rel. 10, Last sequence update)
DT   01-JAN-1990 (Rel. 13, Last annotation update)
DE   Glucagon.
OS   Scyliorhinus canicula (Spotted dogfish) (Spotted catshark).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes;
OC   Elasmobranchii; Galeomorphii; Galeoidea; Carcharhiniformes;
OC   Scyliorhinidae; Scyliorhinus.
OX   NCBI_TaxID=7830;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Pancreas;
RX   MEDLINE=87190953; PubMed=3569517;
RA   Conlon J.M., O'Toole L., Thim L.;
RT   "Primary structure of glucagon from the gut of the common dogfish
RT   (Scyliorhinus canicula).";
RL   FEBS Lett. 214:50-56(1987).
CC   -!- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC       THE BLOOD SUGAR LEVEL.
CC   -!- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC       IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR   PIR; A26992; GCDF.
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 1.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 1.
DR   PROSITE; PS00260; GLUCAGON; 1.
KW   Glucagon family; Hormone.
SQ   SEQUENCE   29 AA;  3529 MW;  6FA96392086F0226 CRC64;

  Query Match             41.6%;  Score 87;  DB 1;  Length 29;
  Best Local Similarity   53.6%;  Pred. No. 6.7e-05;
  Matches   15;  Conservative    4;  Mismatches    9;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKN 28
           | ||||||| || |:    : |::|| |
Db       1 HSEGTFTSDYSKYMDNRRAKDFVQWLMN 28


RESULT 11
GLUC_PIG
ID   GLUC_PIG       STANDARD;      PRT;   158 AA.
AC   P01274;
DT   21-JUL-1986 (Rel. 01, Created)
DT   01-NOV-1990 (Rel. 16, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Glucagon precursor [Contains: Glicentin; Glicentin-related polypeptide
DE   (GRPP); Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like
DE   peptide 2 (GLP2)] (Fragment).
GN   GCG.
OS   Sus scrofa (Pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX   NCBI_TaxID=9823;
RN   [1]
RP   SEQUENCE OF 1-69.
RX   MEDLINE=81248172; PubMed=6894800;
RA   Thim L., Moody A.J.;
RT   "The primary structure of porcine glicentin (proglucagon).";
RL   Regul. Pept. 2:139-150(1981).
RN   [2]
RP   SEQUENCE OF 1-69.
RX   MEDLINE=82221776; PubMed=7045833;
RA   Thim L., Moody A.J.;
RT   "The amino acid sequence of porcine glicentin.";
RL   Peptides 2 Suppl. 2:37-39(1981).
RN   [3]
RP   SEQUENCE OF 33-61.
RA   Bromer W.W., Sinn L.G., Behrens O.K.;
RT   "The amino acid sequence of glucagon. V. Location of amide groups,
RT   acid degradation studies and summary of sequential evidence.";
RL   J. Am. Chem. Soc. 79:2807-2810(1957).
RN   [4]
RP   SEQUENCE OF 78-107.
RX   MEDLINE=89327238; PubMed=2753890;
RA   Orskov C., Bersani M., Johnsen A.H., Hoejrup P., Holst J.J.;
RT   "Complete sequences of glucagon-like peptide-1 from human and pig
RT   small intestine.";
RL   J. Biol. Chem. 264:12826-12829(1989).
RN   [5]
RP   SEQUENCE OF 111-158.
RX   MEDLINE=88243712; PubMed=3379036;
RA   Buhl T., Thim L., Kofod H., Orskov C., Harling H., Holst J.J.;
RT   "Naturally occurring products of proglucagon 111-160 in the porcine
RT   and human small intestine.";
RL   J. Biol. Chem. 263:8621-8624(1988).
RN   [6]
RP   X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS).
RX   MEDLINE=76051297; PubMed=171582;
RA   Sasaki K., Dockerill S., Adamiak D.A., Tickle I.J., Blundell T.L.;
RT   "X-ray analysis of glucagon and its relationship to receptor
RT   binding.";
RL   Nature 257:751-757(1975).
CC   -!- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
CC       RAISES THE BLOOD SUGAR LEVEL.
CC   -!- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
CC       HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC       CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC   -!- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC       IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC   -!- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLOGY WITH
CC       HUMAN SEQUENCE.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR   PIR; A01540; GCPG.
DR   PDB; 1GCN; 30-SEP-83.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 3.
DR   SMART; SM00070; GLUCA; 3.
DR   PROSITE; PS00260; GLUCAGON; 3.
KW   Glucagon family; Hormone; Cleavage on pair of basic residues;
KW   3D-structure.
FT   NON_TER       1      1
FT   PEPTIDE       1     69       GLICENTIN.
FT   PEPTIDE       1     30       GLICENTIN-RELATED POLYPEPTIDE.
FT   PEPTIDE      33     61       GLUCAGON.
FT   PEPTIDE      78    107       GLUCAGON-LIKE PEPTIDE 1.
FT   PEPTIDE     126    158       GLUCAGON-LIKE PEPTIDE 2.
FT   HELIX        39     42
FT   TURN         43     45
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FT   HELIX        46     55
FT   TURN         56     57
SQ   SEQUENCE   158 AA;  18212 MW;  28C6FCF257F333B2 CRC64;

  Query Match             41.6%;  Score 87;  DB 1;  Length 158;
  Best Local Similarity   55.2%;  Pred. No. 0.00045;
  Matches   16;  Conservative    4;  Mismatches    9;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
           | ||||||:|  :| :| : || ||  |
Db      78 HAEGTFTSDVSSYLEGQAAKEFIAWLVKG 106


RESULT 12
GLUC_BOVIN
ID   GLUC_BOVIN     STANDARD;      PRT;   180 AA.
AC   P01272;
DT   21-JUL-1986 (Rel. 01, Created)
DT   13-AUG-1987 (Rel. 05, Last sequence update)
DT   15-JUN-2002 (Rel. 41, Last annotation update)
DE   Glucagon precursor [Contains: Glicentin-related polypeptide (GRPP);
DE   Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
DE   (GLP2)].
GN   GCG.
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=83299996; PubMed=6577439;
RA   Lopez L.C., Frazier M.L., Su C.-J., Kumar A., Saunders G.F.;
RT   "Mammalian pancreatic preproglucagon contains three glucagon-related
RT   peptides.";
RL   Proc. Natl. Acad. Sci. U.S.A. 80:5485-5489(1983).
RN   [2]
RP   SEQUENCE OF 53-81.
RX   MEDLINE=71166445; PubMed=5102927;
RA   Bromer W.W., Boucher M.E., Koffenberger J.E. Jr.;
RT   "Amino acid sequence of bovine glucagon.";
RL   J. Biol. Chem. 246:2822-2827(1971).
RN   [3]
RP   STRUCTURE BY NMR OF 53-81.
RX   MEDLINE=71166445; PubMed=6631957;
RA   Braun W., Wider G., Lee K.H., Wuthrich K.;
RT   "Conformation of glucagon in a lipid-water interphase by 1H nuclear
RT   magnetic resonance.";
RL   J. Mol. Biol. 169:921-948(1983).
CC   -!- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
CC       RAISES THE BLOOD SUGAR LEVEL.
CC   -!- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
CC       HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC       CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC   -!- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC       IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; K00107; AAA30538.1; -.
DR   PIR; A01538; GCBO.
DR   PDB; 1KX6; 13-FEB-02.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 3.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 3.
DR   PROSITE; PS00260; GLUCAGON; 4.
KW   Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
KW   3D-structure.
FT   SIGNAL       1     20
FT   PEPTIDE     21     50       GLICENTIN-RELATED POLYPEPTIDE.
FT   PEPTIDE     53     81       GLUCAGON.
FT   PEPTIDE     92    128       GLUCAGON-LIKE PEPTIDE 1.
FT   PEPTIDE    146    178       GLUCAGON-LIKE PEPTIDE 2.
SQ   SEQUENCE   180 AA;  20944 MW;  8D9B4FF05B9F15FF CRC64;

  Query Match             41.6%;  Score 87;  DB 1;  Length 180;
  Best Local Similarity   55.2%;  Pred. No. 0.00052;
  Matches   16;  Conservative    4;  Mismatches    9;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
           | ||||||:|  :| :| : || ||  |
Db      98 HAEGTFTSDVSSYLEGQAAKEFIAWLVKG 126


RESULT 13
GLUC_CAVPO
ID   GLUC_CAVPO     STANDARD;      PRT;   180 AA.
AC   P05110;
DT   13-AUG-1987 (Rel. 05, Created)
DT   13-AUG-1987 (Rel. 05, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Glucagon precursor [Contains: Glicentin-related polypeptide (GRPP);
DE   Glucagon; Glucagon-37 (Oxyntomodulin); Glucagon-like peptide 1 (GLP1);
DE   Glucagon-like peptide 2 (GLP2)].
GN   GCG.
OS   Cavia porcellus (Guinea pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
OX   NCBI_TaxID=10141;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86248118; PubMed=3755107;
RA   Seino S., Welsh M., Bell G.I., Chan S.J., Steiner D.F.;
RT   "Mutations in the guinea pig preproglucagon gene are restricted to a
RT   specific portion of the prohormone sequence.";
RL   FEBS Lett. 203:25-30(1986).
RN   [2]
RP   SEQUENCE OF 53-81.
RX   MEDLINE=86165412; PubMed=3956884;
RA   Huang C.G., Eng J., Pan Y.-C.E., Hulmes J.D., Yalow R.S.;
RT   "Guinea pig glucagon differs from other mammalian glucagons.";
RL   Diabetes 35:508-512(1986).
RN   [3]
RP   PARTIAL SEQUENCE OF 53-89.
RX   MEDLINE=86017849; PubMed=4048553;
RA   Conlon J.M., Hansen H.F., Schwartz T.W.;
RT   "Primary structure of glucagon and a partial sequence of
RT   oxyntomodulin (glucagon-37) from the guinea pig.";
RL   Regul. Pept. 11:309-320(1985).
CC   -!- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
CC       RAISES THE BLOOD SUGAR LEVEL.
CC   -!- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
CC       HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC       CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC   -!- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC       IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; D00014; BAA00010.1; -.
DR   PIR; A24856; GCGP.
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```
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 3.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 3.
DR   PROSITE; PS00260; GLUCAGON; 4.
KW   Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
FT   SIGNAL       1     20
FT   PEPTIDE     21     50       GLICENTIN-RELATED POLYPEPTIDE.
FT   PEPTIDE     53     81       GLUCAGON.
FT   PEPTIDE     53     89       GLUCAGON-37.
FT   PEPTIDE     92    128       GLUCAGON-LIKE PEPTIDE 1.
FT   PEPTIDE    146    178       GLUCAGON-LIKE PEPTIDE 2.
SQ   SEQUENCE   180 AA;  20972 MW;  702FB181161D2776 CRC64;

  Query Match             41.6%;  Score 87;  DB 1;  Length 180;
  Best Local Similarity   55.2%;  Pred. No. 0.00052;
  Matches   16;  Conservative    4;  Mismatches    9;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
             | ||||||:|  :| :| : || ||  |
Db      98 HAEGTFTSDVSSYLEGQAAKEFIAWLVKG 126


RESULT 14
GLUC_HUMAN
ID   GLUC_HUMAN     STANDARD;      PRT;   180 AA.
AC   P01275;
DT   21-JUL-1986 (Rel. 01, Created)
DT   13-AUG-1987 (Rel. 05, Last sequence update)
DT   15-JUN-2002 (Rel. 41, Last annotation update)
DE   Glucagon precursor [Contains: Glicentin-related polypeptide (GRPP);
DE   Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
DE   (GLP2)].
GN   GCG.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=88330860; PubMed=2901414;
RA   Drucker D.J., Asa S.;
RT   "Glucagon gene expression in vertebrate brain.";
RL   J. Biol. Chem. 263:13475-13478(1988).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86259053; PubMed=3725587;
RA   White J.W., Saunders G.F.;
RT   "Structure of the human glucagon gene.";
RL   Nucleic Acids Res. 14:4719-4730(1986).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=83271477; PubMed=6877358;
RA   Bell G.I., Sanchez-Pescador R., Laybourn P.J., Najarian R.C.;
RT   "Exon duplication and divergence in the human preproglucagon gene.";
RL   Nature 304:368-371(1983).
RN   [4]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Pancreas;
RA   Strausberg R.;
RL   Submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases.
RN   [5]
RP   SEQUENCE OF 53-81.
RA   Thomsen J., Kristiansen K., Brunfeldt K., Sundby F.;
RT   "The amino acid sequence of human glucagon.";
RL   FEBS Lett. 21:315-319(1972).
RN   [6]
RP   SEQUENCE OF 98-127.
RX   MEDLINE=89327238; PubMed=2753890;
RA   Orskov C., Bersani M., Johnsen A.H., Hoejrup P., Holst J.J.;
RT   "Complete sequences of glucagon-like peptide-1 from human and pig
RT   small intestine.";
RL   J. Biol. Chem. 264:12826-12829(1989).
RN   [7]
RP   X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS) OF 53-81.
RX   MEDLINE=98334683; PubMed=9667960;
RA   Sturm N.S., Lin Y., Burley S.K., Krstenansky J.L., Ahn J.M.,
RA   Azizeh B.Y., Trivedi D., Hruby V.J.;
RT   "Structure-function studies on positions 17, 18, and 21 replacement
RT   analogues of glucagon: the importance of charged residues and salt
RT   bridges in glucagon biological activity.";
RL   J. Med. Chem. 41:2693-2700(1998).
CC   -!- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
CC       RAISES THE BLOOD SUGAR LEVEL.
CC   -!- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
CC       HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC       CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC   -!- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC       IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC   -!- PHARMACEUTICAL: Available under the names Glucagon (Eli Lilly) and
CC       GlucaGen or Glucagon Novo Nordisk (Novo Nordisk). Used to treat
CC       severe hypoglycemia in insulin-dependent diabetics.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC   -!- DATABASE: NAME=Glucagon at Eli Lilly;
CC       NOTE=Clinical information on Eli Lilly glucagon products;
CC       WWW="http://www.lillyDiabetes.com/Products/PatientInfo.cfm".
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; J04040; AAA52567.1; -.
DR   EMBL; X03991; CAA27627.1; -.
DR   EMBL; V01515; CAA24759.1; -.
DR   EMBL; BC005278; AAH05278.1; -.
DR   PIR; A24377; GCHU.
DR   PIR; S23309; S23309.
DR   PDB; 1BH0; 18-NOV-98.
DR   Genew; HGNC:4191; GCG.
DR   MIM; 138030; -.
DR   MIM; 231530; -.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 3.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 3.
DR   PROSITE; PS00260; GLUCAGON; 4.
KW   Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
KW   Pharmaceutical; 3D-structure.
FT   SIGNAL       1     20
FT   PEPTIDE     21     50       GLICENTIN-RELATED POLYPEPTIDE.
FT   PEPTIDE     53     81       GLUCAGON.
FT   PEPTIDE     98    127       GLUCAGON-LIKE PEPTIDE 1.
FT   PEPTIDE    146    178       GLUCAGON-LIKE PEPTIDE 2.
FT   CONFLICT    82     82       K -> N (IN REF. 3).
SQ   SEQUENCE   180 AA;  20909 MW;  7A99EEC629B2862C CRC64;

  Query Match             41.6%;  Score 87;  DB 1;  Length 180;
  Best Local Similarity   55.2%;  Pred. No. 0.00052;
  Matches   16;  Conservative    4;  Mismatches    9;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
             | ||||||:|  :| :| : || ||  |
Db      98 HAEGTFTSDVSSYLEGQAAKEFIAWLVKG 126


RESULT 15
GLUC_MESAU
ID   GLUC_MESAU     STANDARD;      PRT;   180 AA.
AC   P01273;
DT   21-JUL-1986 (Rel. 01, Created)
```

```
DT   01-FEB-1996 (Rel. 33, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Glucagon precursor [Contains: Glicentin-related polypeptide (GRPP);
DE   Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
DE   (GLP2)].
GN   GCG.
OS   Mesocricetus auratus (Golden hamster).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
OC   Mesocricetus.
OX   NCBI_TaxID=10036;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=83167563; PubMed=6835407;
RA   Bell G.I., Santerre R.F., Mullenbach G.T.;
RT   "Hamster preproglucagon contains the sequence of glucagon and two
RT   related peptides.";
RL   Nature 302:716-718(1983).
RN   [2]
RP   REVISIONS TO 12-15.
RA   Bell G.I.;
RL   Submitted (XXX-1985) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
CC       RAISES THE BLOOD SUGAR LEVEL.
CC   -!- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
CC       HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC       CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC   -!- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC       IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; J00059; AAA37074.1; -.
DR   PIR; A01539; GCHY.
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 3.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 3.
DR   PROSITE; PS00260; GLUCAGON; 4.
KW   Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
FT   SIGNAL       1     20
FT   PEPTIDE     21     50       GLICENTIN-RELATED POLYPEPTIDE.
FT   PEPTIDE     53     81       GLUCAGON.
FT   PEPTIDE     92    128       GLUCAGON-LIKE PEPTIDE 1.
FT   PEPTIDE    146    178       GLUCAGON-LIKE PEPTIDE 2.
SQ   SEQUENCE   180 AA;  20954 MW;  02791B49D7AADD4B CRC64;

  Query Match             41.6%;  Score 87;  DB 1;  Length 180;
  Best Local Similarity   55.2%;  Pred. No. 0.00052;
  Matches   16;  Conservative    4;  Mismatches    9;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
           | |||||||:|  :|  :|  :  ||  ||  |
Db      98 HAEGTFTSDVSSYLEGQAAKEFIAWLVKG 126


Search completed: February 13, 2003, 17:11:22
Job time : 30 secs
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GenCore version 5.1.3

OM protein - protein search, using sw model

Run on: February 13, 2003, 17:09:48 ; Search time 34 Seconds
(without alignments)
236.348 Million cell updates/sec

Title: US-09-756-690A-2
Perfect score: 209
Sequence: 1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 671580 seqs, 206047115 residues

Total number of hits satisfying chosen parameters: 671580

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SPTREMBL_21:*
1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_rvirus:*
16: sp_bacteriap:*
17: sp_archeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	119	56.9	266	13	O42143	O42143 xenopus lae
2	111	53.1	219	13	O42144	O42144 xenopus lae
3	101	48.3	220	13	Q8UWL9	Q8uwl9 hoplobatrac
4	90.5	43.3	178	13	Q91971	Q91971 oncorhynchu
5	88	42.1	72	13	Q91409	Q91409 oncorhynchu
6	88	42.1	178	13	Q91189	Q91189 oncorhynchu
7	88	42.1	206	13	Q91410	Q91410 gallus gall
8	87	41.6	180	6	Q95LG0	Q95lg0 canis famil
9	86.5	41.4	62	13	Q9PRW9	Q9prw9 scyliorhinu
10	86.5	41.4	160	13	Q9PUR1	Q9pur1 petromyzon
11	83	39.7	121	13	Q9DDE6	Q9dde6 brachydanio
12	82	39.2	204	13	O12956	O12956 heloderma s
13	77	36.8	96	13	Q9DG43	Q9dg43 ambloplites
14	75	35.9	120	13	Q9PUR0	Q9pur0 petromyzon
15	62	29.7	347	16	Q92XW3	Q92xw3 rhizobium m
16	61	29.2	193	5	Q9V712	Q9v712 drosophila
17	58.5	28.0	200	2	Q936E2	Q936e2 streptococc
18	58.5	28.0	298	2	Q9AL20	Q9al20 enterococcu
19	58.5	28.0	298	2	Q9XD90	Q9xd90 clostridium
20	57	27.3	719	2	Q9L5T4	Q9l5t4 salmonella
21	56.5	27.0	608	10	O22678	O22678 avena sativ
22	56	26.8	2127	12	O57294	O57294 rabies viru
23	56	26.8	2127	12	Q9JH63	Q9jh63 rabies viru
24	55.5	26.6	1272	13	Q90924	Q90924 gallus gall
25	55.5	26.6	1369	13	O42414	O42414 gallus gall
26	55	26.3	130	11	Q9CVF1	Q9cvf1 mus musculu
27	55	26.3	132	10	Q9XID9	Q9xid9 arabidopsis
28	55	26.3	132	10	Q9SXC1	Q9sxc1 arabidopsis
29	55	26.3	144	11	Q9D887	Q9d887 mus musculu
30	55	26.3	188	2	Q49387	Q49387 mycoplasma
31	55	26.3	192	2	Q49390	Q49390 mycoplasma
32	55	26.3	261	3	Q9C2U0	Q9c2u0 kluyveromyc
33	55	26.3	392	2	Q93CN3	Q93cn3 bacteroides
34	55	26.3	439	17	Q8ZWR8	Q8zwr8 pyrobaculum
35	55	26.3	790	5	Q20949	Q20949 caenorhabdi
36	54.5	26.1	221	5	O62473	O62473 caenorhabdi
37	54.5	26.1	298	2	Q57280	Q57280 streptococc
38	54.5	26.1	298	2	Q46161	Q46161 clostridium
39	54.5	26.1	298	2	Q46162	Q46162 clostridium
40	54.5	26.1	298	2	Q937T7	Q937t7 clostridium
41	54.5	26.1	379	2	O85863	O85863 sphingomona
42	54	25.8	309	5	O02163	O02163 caenorhabdi
43	54	25.8	310	17	Q9YE06	Q9ye06 aeropyrum p
44	54	25.8	458	10	O49922	O49922 physcomitre
45	54	25.8	464	10	Q9LDK5	Q9ldk5 physcomitre

ALIGNMENTS

RESULT 1
O42143
ID O42143 PRELIMINARY; PRT; 266 AA.
AC O42143;
DT 01-JAN-1998 (TrEMBLrel. 05, Created)
DT 01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
DT 01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE Glucagon I precursor [Contains: Glucagon; glucagon-like peptide 1A
DE (GLP-1A); glucagon-like peptide 1B (GLP-1B); glucagon-like peptide 1C
DE (GLP-1C); glucagon-like peptide 2 (GLP-2)].
OS Xenopus laevis (African clawed frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
OC Xenopodinae; Xenopus.
OX NCBI_TaxID=8355;
RN [1]
RP SEQUENCE FROM N.A., AND ALTERNATIVE SPLICING.
RC TISSUE=PANCREAS;
RX MEDLINE=97368292; PubMed=9223287;
RA Irwin D.M., Satkunarajah M., Wen Y., Brubaker P.L., Pederson R.A.,
RA Wheeler M.B.;
RT "The Xenopus proglucagon gene encodes novel GLP-1-like peptides with
RT insulinotropic properties.";
RL Proc. Natl. Acad. Sci. U.S.A. 94:7915-7920(1997).
CC -!- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC THE BLOOD SUGAR LEVEL.
CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; 1 (SHOWN HERE) AND 2; ARE
CC PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR EMBL; AF004432; AAB65660.1; -.
DR HSSP; P01274; 1GCN.
DR InterPro; IPR000532; Glucagon.
DR Pfam; PF00123; hormone2; 5.
DR PRINTS; PR00275; GLUCAGON.
DR SMART; SM00070; GLUCA; 5.
DR PROSITE; PS00260; GLUCAGON; 5.
KW Glucagon family; Hormone; Signal; Cleavage on pair of basic residues;
KW Multigene family; Alternative splicing.
FT SIGNAL 1 ? POTENTIAL.

```
FT   PEPTIDE       53     81       GLUCAGON.
FT   PEPTIDE       97    133       GLUCAGON-LIKE PEPTIDE 1A.
FT   PEPTIDE      142    173       GLUCAGON-LIKE PEPTIDE 1B.
FT   PEPTIDE      180    211       GLUCAGON-LIKE PEPTIDE 1C.
FT   PEPTIDE      227    259       GLUCAGON-LIKE PEPTIDE 2.
FT   VARSPLIC     214    261       MISSING (IN ISOFORM 2).
SQ   SEQUENCE   266 AA;  30951 MW;  544F7BBC20AF872C CRC64;

  Query Match             56.9%;  Score 119;  DB 13;  Length 266;
  Best Local Similarity   62.5%;  Pred. No. 8.9e-08;
  Matches   20;  Conservative    8;  Mismatches    4;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPS 32
           | ||||||:::|::|:| : ||:|| |||||
Db      97 HAEGTFTSDVTQQLDEKAAKEFIDWLINGGPS 128


RESULT 2
O42144
ID   O42144      PRELIMINARY;      PRT;   219 AA.
AC   O42144;
DT   01-JAN-1998 (TrEMBLrel. 05, Created)
DT   01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   Glucagon II precursor [Contains: Glucagon; glucagon-like peptide 1A
DE   (GLP-1A); glucagon-like peptide 1B (GLP-1B); glucagon-like peptide 1C
DE   (GLP-1C)].
OS   Xenopus laevis (African clawed frog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
OC   Xenopodinae; Xenopus.
OX   NCBI_TaxID=8355;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=PANCREAS;
RX   MEDLINE=97368292; PubMed=9223287;
RA   Irwin D.M., Satkunarajah M., Wen Y., Brubaker P.L., Pederson R.A.,
RA   Wheeler M.B.;
RT   "The Xenopus proglucagon gene encodes novel GLP-1-like peptides with
RT   insulinotropic properties.";
RL   Proc. Natl. Acad. Sci. U.S.A. 94:7915-7920(1997).
CC   -!- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC       THE BLOOD SUGAR LEVEL.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR   EMBL; AF004433; AAB65661.1; -.
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 4.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 4.
DR   PROSITE; PS00260; GLUCAGON; 3.
KW   Glucagon family; Hormone; Signal; Cleavage on pair of basic residues;
KW   Multigene family.
FT   SIGNAL        1     20       POTENTIAL.
FT   PEPTIDE       53     81       GLUCAGON.
FT   PEPTIDE       97    133       GLUCAGON-LIKE PEPTIDE 1A.
FT   PEPTIDE      142    173       GLUCAGON-LIKE PEPTIDE 1B.
FT   PEPTIDE      180    211       GLUCAGON-LIKE PEPTIDE 1C.
SQ   SEQUENCE   219 AA;  25271 MW;  ACC699233C362CE0 CRC64;

  Query Match             53.1%;  Score 111;  DB 13;  Length 219;
  Best Local Similarity   56.2%;  Pred. No. 8.4e-07;
  Matches   18;  Conservative    9;  Mismatches    5;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPS 32
           | |||||||::: ::|:| : ||:|| ||||:
Db      97 HAEGTFTSDVTQHLDEKAAKEFIDWLINGGPT 128


RESULT 3
Q8UWL9
ID   Q8UWL9      PRELIMINARY;      PRT;   220 AA.
AC   Q8UWL9;
DT   01-MAR-2002 (TrEMBLrel. 20, Created)
DT   01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
DT   01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
DE   Proglucagon.
OS   Hoplobatrachus rugulosus.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae;
OC   Hoplobatrachus.
OX   NCBI_TaxID=110072;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Yeung C.-M., Chow B.K.C.;
RT   "Identification of a proglucagon cDNA from Rana tigrina rugulosa that
RT   encodes two GLP-1s.";
RL   Gen. Comp. Endocrinol. 124:0-0(2001).
DR   EMBL; AF324209; AAL35758.1; -.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 4.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 4.
DR   PROSITE; PS00260; GLUCAGON; UNKNOWN_4.
SQ   SEQUENCE   220 AA;  25615 MW;  C72D926E7F89E381 CRC64;

  Query Match             48.3%;  Score 101;  DB 13;  Length 220;
  Best Local Similarity   47.2%;  Pred. No. 1.8e-05;
  Matches   17;  Conservative    7;  Mismatches   12;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAP 36
           | |||||||::  :||:| : |::||  | |    |
Db     135 HAEGTFTSDMTSYLEEKAAKEFVDWLIKGRPKRNFP 170


RESULT 4
Q91971
ID   Q91971      PRELIMINARY;      PRT;   178 AA.
AC   Q91971; Q91408; Q91188; Q92169;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   Glucagon I precursor.
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A., AND ALTERNATIVE SPLICING.
RC   TISSUE=DISTAL SMALL INTESTINE, AND PANCREAS;
RX   MEDLINE=95295739; PubMed=7776976;
RA   Irwin D.M., Wong J.;
RT   "Trout and chicken proglucagon: alternative splicing generates mRNA
RT   transcripts encoding glucagon-like peptide 2.";
RL   Mol. Endocrinol. 9:267-277(1995).
CC   -!- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC       THE BLOOD SUGAR LEVEL (BY SIMILARITY).
CC   -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; INTESTINAL (SHOWN HERE) AND
CC       PANCREATIC; ARE PRODUCED BY ALTERNATIVE SPLICING.
CC   -!- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS IN
CC       RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR   EMBL; U19913; AAC59667.1; -.
DR   EMBL; U19917; AAC59669.1; -.
DR   EMBL; U19918; AAC60212.1; -.
DR   EMBL; U19919; AAC60213.1; -.
DR   EMBL; U19918; AAC60213.1; JOINED.
DR   EMBL; S78475; AAB34505.1; -.
DR   EMBL; S78473; AAB34504.2; -.
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 3.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 3.
DR   PROSITE; PS00260; GLUCAGON; 3.
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KW   Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
KW   Alternative splicing; Multigene family.
FT   SIGNAL       1      ?       POTENTIAL.
FT   PEPTIDE      ?     49       GRPP (GLICENTINE RELATED POLYPEPTIDE).
FT   PEPTIDE     52     80       GLUCAGON.
FT   PEPTIDE     85    120       GLUCAGON-LIKE PEPTIDE 1.
FT   PEPTIDE    137    169       GLUCAGON-LIKE PEPTIDE 2.
FT   VARSPLIC   124    178       MISSING (IN PANCREATIC ISOFORM).
SQ   SEQUENCE   178 AA;  20034 MW;  5CF6980CF2A9D58E CRC64;

  Query Match             43.3%;  Score 90.5;  DB 13;  Length 178;
  Best Local Similarity   50.0%;  Pred. No. 0.00037;
  Matches   18;  Conservative    5;  Mismatches   12;  Indels    1;  Gaps    1;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAP 36
           | ||||::| ||  ||   : |::|| |    ||||
Db      52 HSEGTFSNDYSKYQEERMAQDFVQWLMN-SKRSGAP 86


RESULT 5
Q91409
ID   Q91409      PRELIMINARY;      PRT;    72 AA.
AC   Q91409; Q91232;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   PROGLUCAGON (Fragment).
OS   Oncorhynchus tschawytscha (Chinook salmon) (King salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=74940;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95295739; PubMed=7776976;
RA   Irwin D.M., Wong J.;
RT   "Trout and chicken proglucagon: alternative splicing generates mRNA
RT   transcripts encoding glucagon-like peptide 2.";
RL   Mol. Endocrinol. 9:267-277(1995).
DR   EMBL; S78474; AAD14283.1; -.
DR   EMBL; U19920; AAC59670.1; -.
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 2.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 2.
DR   PROSITE; PS00260; GLUCAGON; UNKNOWN_1.
FT   NON_TER      1      1
SQ   SEQUENCE   72 AA;  8293 MW;  8584352B1C260A31 CRC64;

  Query Match             42.1%;  Score 88;  DB 13;  Length 72;
  Best Local Similarity   44.8%;  Pred. No. 0.00029;
  Matches   13;  Conservative   10;  Mismatches    6;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
           | :||:|||:|  ::::| : |: |||:|
Db      39 HADGTYTSDVSTYLQDQAAKDFVSWLKSG 67


RESULT 6
Q91189
ID   Q91189      PRELIMINARY;      PRT;   178 AA.
AC   Q91189; Q92168;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   Glucagon II precursor.
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A., AND ALTERNATIVE SPLICING.
RC   TISSUE=DISTAL SMALL INTESTINE, AND PANCREAS;
RX   MEDLINE=95295739; PubMed=7776976;
RA   Irwin D.M., Wong J.;
RT   "Trout and chicken proglucagon: alternative splicing generates mRNA
RT   transcripts encoding glucagon-like peptide 2.";
RL   Mol. Endocrinol. 9:267-277(1995).
CC   -!- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC       THE BLOOD SUGAR LEVEL (BY SIMILARITY).
CC   -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; INTESTINAL (SHOWN HERE) AND
CC       PANCREATIC; ARE PRODUCED BY ALTERNATIVE SPLICING.
CC   -!- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS IN
CC       RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR   EMBL; U19914; AAC59668.1; -.
DR   EMBL; U19916; AAC60210.1; -.
DR   EMBL; U19915; AAC60210.1; JOINED.
DR   EMBL; U19915; AAC60209.1; -.
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 3.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 3.
DR   PROSITE; PS00260; GLUCAGON; UNKNOWN_2.
KW   Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
KW   Alternative splicing; Multigene family.
FT   SIGNAL       1      ?       POTENTIAL.
FT   PEPTIDE      ?     49       GRPP (GLICENTINE RELATED POLYPEPTIDE).
FT   PEPTIDE     52     80       GLUCAGON.
FT   PEPTIDE     85    120       GLUCAGON-LIKE PEPTIDE 1.
FT   PEPTIDE    137    169       GLUCAGON-LIKE PEPTIDE 2.
FT   VARSPLIC   124    178       MISSING (IN PANCREATIC ISOFORM).
SQ   SEQUENCE   178 AA;  19998 MW;  E89D73866CD91C66 CRC64;

  Query Match             42.1%;  Score 88;  DB 13;  Length 178;
  Best Local Similarity   44.8%;  Pred. No. 0.0008;
  Matches   13;  Conservative   10;  Mismatches    6;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
           | :||:|||:|  ::::| : |: |||:|
Db      90 HADGTYTSDVSTYLQDQAAKDFVSWLKSG 118


RESULT 7
Q91410
ID   Q91410      PRELIMINARY;      PRT;   206 AA.
AC   Q91410;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   Proglucagon.
GN   PROGLUCAGON.
OS   Gallus gallus (Chicken).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC   Gallus.
OX   NCBI_TaxID=9031;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95295739; PubMed=7776976;
RA   Irwin D.M., Wong J.;
RT   "Trout and chicken proglucagon: alternative splicing generates mRNA
RT   transcripts encoding glucagon-like peptide 2.";
RL   Mol. Endocrinol. 9:267-277(1995).
DR   EMBL; S78477; AAB34506.1; -.
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 3.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 3.
DR   PROSITE; PS00260; GLUCAGON; 3.
SQ   SEQUENCE   206 AA;  23875 MW;  AB299E1B02FC6AA4 CRC64;
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  Query Match             42.1%;  Score 88;  DB 13;  Length 206;
  Best Local Similarity   51.7%;  Pred. No. 0.00094;
  Matches   15;  Conservative    6;  Mismatches    8;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
           | |||:|||::  :| :| : || || ||
Db     118 HAEGTYTSDITSYLEGQAAKEFIAWLVNG 146


RESULT 8
Q95LG0
ID   Q95LG0      PRELIMINARY;      PRT;   180 AA.
AC   Q95LG0;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
DE   Preproglucagon.
OS   Canis familiaris (Dog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OX   NCBI_TaxID=9615;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Irwin D.M.;
RT   "cDNA cloning of proglucagon from the stomach and pancreas of the
RT   dog.";
RL   Submitted (SEP-2000) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF308439; AAL09425.1; -.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 3.
DR   PROSITE; PS00260; GLUCAGON; UNKNOWN_3.
SQ   SEQUENCE   180 AA;  21114 MW;  80F66941AFC324FD CRC64;

  Query Match             41.6%;  Score 87;  DB 6;  Length 180;
  Best Local Similarity   55.2%;  Pred. No. 0.0011;
  Matches   16;  Conservative    4;  Mismatches    9;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
           | |||||||:|  :| :| : || ||  |
Db      98 HAEGTFTSDVSSYLEGQAAKEFIAWLVKG 126


RESULT 9
Q9PRW9
ID   Q9PRW9      PRELIMINARY;      PRT;    62 AA.
AC   Q9PRW9; Q9PRX0; Q9PRW8;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
DE   Glucagon precursor [Contains: glucagon-29; glucagon-33; glucagon-like
DE   peptide] (Fragments).
OS   Scyliorhinus canicula (Spotted dogfish) (Spotted catshark).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes;
OC   Elasmobranchii; Galeomorphii; Galeoidea; Carcharhiniformes;
OC   Scyliorhinidae; Scyliorhinus.
OX   NCBI_TaxID=7830;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=PANCREAS;
RX   MEDLINE=94286411; PubMed=8015974;
RA   Conlon J.M., Hazon N., Thim L.;
RT   "Primary structures of peptides derived from proglucagon isolated from
RT   the pancreas of the elasmobranch fish, Scyliorhinus canicula.";
RL   Peptides 15:163-167(1994).
CC   -!- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC       THE BLOOD SUGAR LEVEL.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 2.
DR   PROSITE; PS00260; GLUCAGON; 2.
KW   Glucagon family; Hormone.
FT   PEPTIDE       1     29       GLUCAGON-29.
FT   PEPTIDE       1     33       GLUCAGON-33.
FT   NON_CONS     33     34
FT   PEPTIDE      34     62       GLUCAGON-LIKE PEPTIDE.
SQ   SEQUENCE   62 AA;  7270 MW;  C5FF487C12C69CD1 CRC64;

  Query Match             41.4%;  Score 86.5;  DB 13;  Length 62;
  Best Local Similarity   45.9%;  Pred. No. 0.00038;
  Matches   17;  Conservative    5;  Mismatches   12;  Indels    3;  Gaps    1;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWL---KNGGPSSG 34
           | ||||||| || |:    : |::||   |  | : |
Db       1 HSEGTFTSDYSKYMDNRRAKDFVQWLMSTKRNGHAEG 37


RESULT 10
Q9PUR1
ID   Q9PUR1      PRELIMINARY;      PRT;   160 AA.
AC   Q9PUR1; Q9PRZ8; Q9PRZ7;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   Glucagon I precursor [Contains: Glucagon; glucagon-like peptide 1
DE   (GLP-1); glucagon-like peptide 2 (GLP-2)].
OS   Petromyzon marinus (Sea lamprey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Hyperoartia;
OC   Petromyzontiformes; Petromyzontidae; Petromyzon.
OX   NCBI_TaxID=7757;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=INTESTINE;
RX   MEDLINE=20022986; PubMed=10555286;
RA   Irwin D.M., Huner O., Youson J.H.;
RT   "Lamprey proglucagon and the origin of glucagon-like peptides.";
RL   Mol. Biol. Evol. 16:1548-1557(1999).
RN   [2]
RP   SEQUENCE OF 43-71 AND 82-113.
RC   TISSUE=INTESTINE;
RX   MEDLINE=94010172; PubMed=8405897;
RA   Conlon J.M., Nielsen P.F., Youson J.H.;
RT   "Primary structures of glucagon and glucagon-like peptide isolated
RT   from the intestine of the parasitic phase lamprey Petromyzon
RT   marinus.";
RL   Gen. Comp. Endocrinol. 91:96-104(1993).
CC   -!- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC       THE BLOOD SUGAR LEVEL.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR   EMBL; AF159707; AAF09186.1; -.
DR   HSSP; P01275; 1BH0.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 2.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 2.
DR   PROSITE; PS00260; GLUCAGON; 2.
KW   Glucagon family; Hormone; Signal; Cleavage on pair of basic residues;
KW   Multigene family.
FT   SIGNAL        1     22       POTENTIAL.
FT   PEPTIDE      43     71       GLUCAGON.
FT   PEPTIDE      82    113       GLUCAGON-LIKE PEPTIDE 1.
FT   PEPTIDE     130    160       GLUCAGON-LIKE PEPTIDE 2.
SQ   SEQUENCE   160 AA;  18042 MW;  9A52C530D5A74072 CRC64;

  Query Match             41.4%;  Score 86.5;  DB 13;  Length 160;
  Best Local Similarity   51.5%;  Pred. No. 0.0011;
  Matches   17;  Conservative    4;  Mismatches    9;  Indels    3;  Gaps    1;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWL---KNGG 30
           | ||||||| || :| :  :  |: ||    | ||
Db      43 HSEGTFTSDYSKYLENKQAKDFVRWLMNAKRGG 75


RESULT 11
Q9DDE6
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ID   Q9DDE6      PRELIMINARY;      PRT;   121 AA.
AC   Q9DDE6;
DT   01-MAR-2001 (TrEMBLrel. 16, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   Glucagon polyprotein.
GN   GCG OR GLU.
OS   Brachydanio rerio (Zebrafish) (Zebra danio).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC   Cyprinidae; Danio.
OX   NCBI_TaxID=7955;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99425190; PubMed=10495291;
RA   Argenton F., Zecchin E., Bortolussi M.;
RT   "Early appearance of pancreatic hormone-expressing cells in the
RT   zebrafish embryo.";
RL   Mech. Dev. 87:217-221(1999).
DR   EMBL; AJ133697; CAC20108.1; -.
DR   HSSP; P01274; 1GCN.
DR   ZFIN; ZDB-GENE-010219-1; gcg.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 2.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 2.
DR   PROSITE; PS00260; GLUCAGON; 1.
KW   Polyprotein.
FT   CHAIN        49     79       GLUCAGON.
FT   CHAIN        88    121       GLUCAGON-LIKE PEPTIDE 1.
SQ   SEQUENCE   121 AA;  13537 MW;  A85385F690DA180F CRC64;

  Query Match             39.7%;  Score 83;  DB 13;  Length 121;
  Best Local Similarity   45.2%;  Pred. No. 0.0024;
  Matches   14;  Conservative    9;  Mismatches    8;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGP 31
           | |||:|||:|  ::::| : |:  ||:| |
Db      88 HAEGTYTSDVSSYLQDQAAQRFVARLKSGQP 118


RESULT 12
O12956
ID   O12956      PRELIMINARY;      PRT;   204 AA.
AC   O12956; O12955;
DT   01-JUL-1997 (TrEMBLrel. 04, Created)
DT   01-JUL-1997 (TrEMBLrel. 04, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   Glucagon precursor.
OS   Heloderma suspectum (Gila monster).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Lepidosauria; Squamata; Scleroglossa; Anguimorpha; Helodermatidae;
OC   Heloderma.
OX   NCBI_TaxID=8554;
RN   [1]
RP   SEQUENCE FROM N.A., ALTERNATIVE SPLICING, AND TISSUE SPECIFICITY.
RC   TISSUE=INTESTINE, AND PANCREAS;
RX   MEDLINE=97172477; PubMed=9020121;
RA   Chen Y.E., Drucker D.J.;
RT   "Tissue-specific expression of unique mRNAs that encode proglucagon-
RT   derived peptides or exendin 4 in the lizard.";
RL   J. Biol. Chem. 272:4108-4115(1997).
CC   -!- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC       THE BLOOD SUGAR LEVEL (BY SIMILARITY).
CC   -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; LPII (SHOWN HERE) AND LPI; ARE
CC       PRODUCED BY ALTERNATIVE SPLICING.
CC   -!- TISSUE SPECIFICITY: ISOFORM LPII IS EXPRESSED IN BOTH PANCREAS AND
CC       INTESTINE. EXPRESSION OF ISOFORM LPI IS RESTRICTED TO THE
CC       PANCREAS. NEITHER ISOFORM IS DETECTED IN SALIVARY GLAND.
CC   -!- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS IN
CC       RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR   EMBL; U77612; AAB51129.1; -.
DR   EMBL; U77611; AAB51128.1; -.
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 3.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 3.
DR   PROSITE; PS00260; GLUCAGON; 2.
KW   Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
KW   Alternative splicing.
FT   SIGNAL        1     20       BY SIMILARITY.
FT   PEPTIDE      21     50       GRPP (GLICENTINE RELATED POLYPEPTIDE).
FT   PEPTIDE      53     81       GLUCAGON.
FT   PEPTIDE     116    145       GLUCAGON-LIKE PEPTIDE 1.
FT   PEPTIDE     164    196       GLUCAGON-LIKE PEPTIDE 2.
FT   VARSPLIC    149    149       D -> E (IN ISOFORM LPI).
FT   VARSPLIC    150    204       MISSING (IN ISOFORM LPI).
SQ   SEQUENCE   204 AA;  23553 MW;  B132E3FE46873E72 CRC64;

  Query Match             39.2%;  Score 82;  DB 13;  Length 204;
  Best Local Similarity   48.3%;  Pred. No. 0.0059;
  Matches   14;  Conservative    6;  Mismatches    9;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNG 29
           | :| :|||:|  :| :| : || || ||
Db     116 HADGRYTSDISSYLEGQAAKEFIAWLVNG 144


RESULT 13
Q9DG43
ID   Q9DG43      PRELIMINARY;      PRT;    96 AA.
AC   Q9DG43;
DT   01-MAR-2001 (TrEMBLrel. 16, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   Proglucagon (Fragment).
OS   Ambloplites rupestris.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Centrarchidae; Ambloplites.
OX   NCBI_TaxID=109273;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Al-Mahrouki A.A., Irwin D.M., Youson J.H.;
RT   "Rock Bass Proglucagon.";
RL   Submitted (SEP-1999) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF190499; AAG16778.1; -.
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 2.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 2.
DR   PROSITE; PS00260; GLUCAGON; UNKNOWN_1.
FT   NON_TER       1      1
FT   CHAIN         1    >29       GLUCAGON.
FT   CHAIN        39    >70       GLUCAGON-LIKE PEPTIDE 1.
FT   CHAIN        86    >96       GLUCAGON-LIKE PEPTIDE 2.
FT   NON_TER      96     96
SQ   SEQUENCE   96 AA;  11225 MW;  6435033EBDDC00CE CRC64;

  Query Match             36.8%;  Score 77;  DB 13;  Length 96;
  Best Local Similarity   40.0%;  Pred. No. 0.012;
  Matches   14;  Conservative    6;  Mismatches   15;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGA 35
           | :||||:| :  :|:   : || || |   |  |
Db       1 HSQGTFTNDYTNYLEDRQAQDFIRWLMNNKRSGAA 35


RESULT 14
Q9PUR0
ID   Q9PUR0      PRELIMINARY;      PRT;   120 AA.
AC   Q9PUR0;
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DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   Glucagon II precursor [Contains: Glucagon; glucagon-like peptide
DE   (GLP)].
OS   Petromyzon marinus (Sea lamprey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Hyperoartia;
OC   Petromyzontiformes; Petromyzontidae; Petromyzon.
OX   NCBI_TaxID=7757;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=INTESTINE;
RX   MEDLINE=20022986; PubMed=10555286;
RA   Irwin D.M., Huner O., Youson J.H.;
RT   "Lamprey proglucagon and the origin of glucagon-like peptides.";
RL   Mol. Biol. Evol. 16:1548-1557(1999).
CC   -!- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC       THE BLOOD SUGAR LEVEL.
CC   -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR   EMBL; AF159708; AAF09187.1; -.
DR   HSSP; P01275; 1BH0.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; hormone2; 2.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 2.
DR   PROSITE; PS00260; GLUCAGON; 2.
KW   Glucagon family; Hormone; Signal; Cleavage on pair of basic residues;
KW   Multigene family.
FT   SIGNAL        1      ?       POTENTIAL.
FT   PEPTIDE      44     72       GLUCAGON.
FT   PEPTIDE      89    120       GLUCAGON-LIKE PEPTIDE.
SQ   SEQUENCE   120 AA;  13397 MW;  FBDE667B96E198D8 CRC64;

  Query Match             35.9%;  Score 75;  DB 13;  Length 120;
  Best Local Similarity   36.7%;  Pred. No. 0.028;
  Matches   11;  Conservative   10;  Mismatches    9;  Indels    0;  Gaps    0;

Qy       1 HGEGTFTSDLSKQMEEEAVRLFIEWLKNGG 30
           | :|:||:|::  ::  : : |:||||  |
Db      89 HSDGSFTNDMNVMLDRMSAKNFLEWLKQQG 118


RESULT 15
Q92XW3
ID   Q92XW3      PRELIMINARY;      PRT;   347 AA.
AC   Q92XW3;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
DE   Hypothetical protein RA1127.
GN   RA1127 OR SMA2063.
OS   Rhizobium meliloti (Sinorhizobium meliloti).
OG   Plasmid pSymA (megaplasmid 1).
OC   Bacteria; Proteobacteria; alpha subdivision; Rhizobiaceae group;
OC   Rhizobiaceae; Sinorhizobium.
OX   NCBI_TaxID=382;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=1021;
RX   MEDLINE=21396509; PubMed=11481432;
RA   Barnett M.J., Fisher R.F., Jones T., Komp C., Abola A.P.,
RA   Barloy-Hubler F., Bowser L., Capela D., Galibert F., Gouzy J.,
RA   Gurjal M., Hong A., Huizar L., Hyman R.W., Kahn D., Kahn M.L.,
RA   Kalman S., Keating D.H., Palm C., Peck M.C., Surzycki R., Wells D.H.,
RA   Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
RT   "Nucleotide sequence and predicted functions of the entire
RT   Sinorhizobium meliloti pSymA megaplasmid.";
RL   Proc. Natl. Acad. Sci. U.S.A. 98:9883-9888(2001).
DR   EMBL; AE007298; AAK65785.1; -.
DR   InterPro; IPR001005; Myb_DNA_binding.
DR   PROSITE; PS00037; MYB_1; UNKNOWN_1.
KW   Hypothetical protein; Plasmid; Complete proteome.
SQ   SEQUENCE   347 AA;  38706 MW;  2BDEF2867AD0475C CRC64;

  Query Match             29.7%;  Score 62;  DB 16;  Length 347;
  Best Local Similarity   43.3%;  Pred. No. 5.2;
  Matches   13;  Conservative    5;  Mismatches   12;  Indels    0;  Gaps    0;

Qy      10 LSKQMEEEAVRLFIEWLKNGGPSSGAPPPS 39
           |   : |||  | :||:::||||   |  |
Db     272 LQWSVSEEADLLSLEWVESGGPSVSEPSRS 301


Search completed: February 13, 2003, 17:12:44
Job time : 40 secs
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